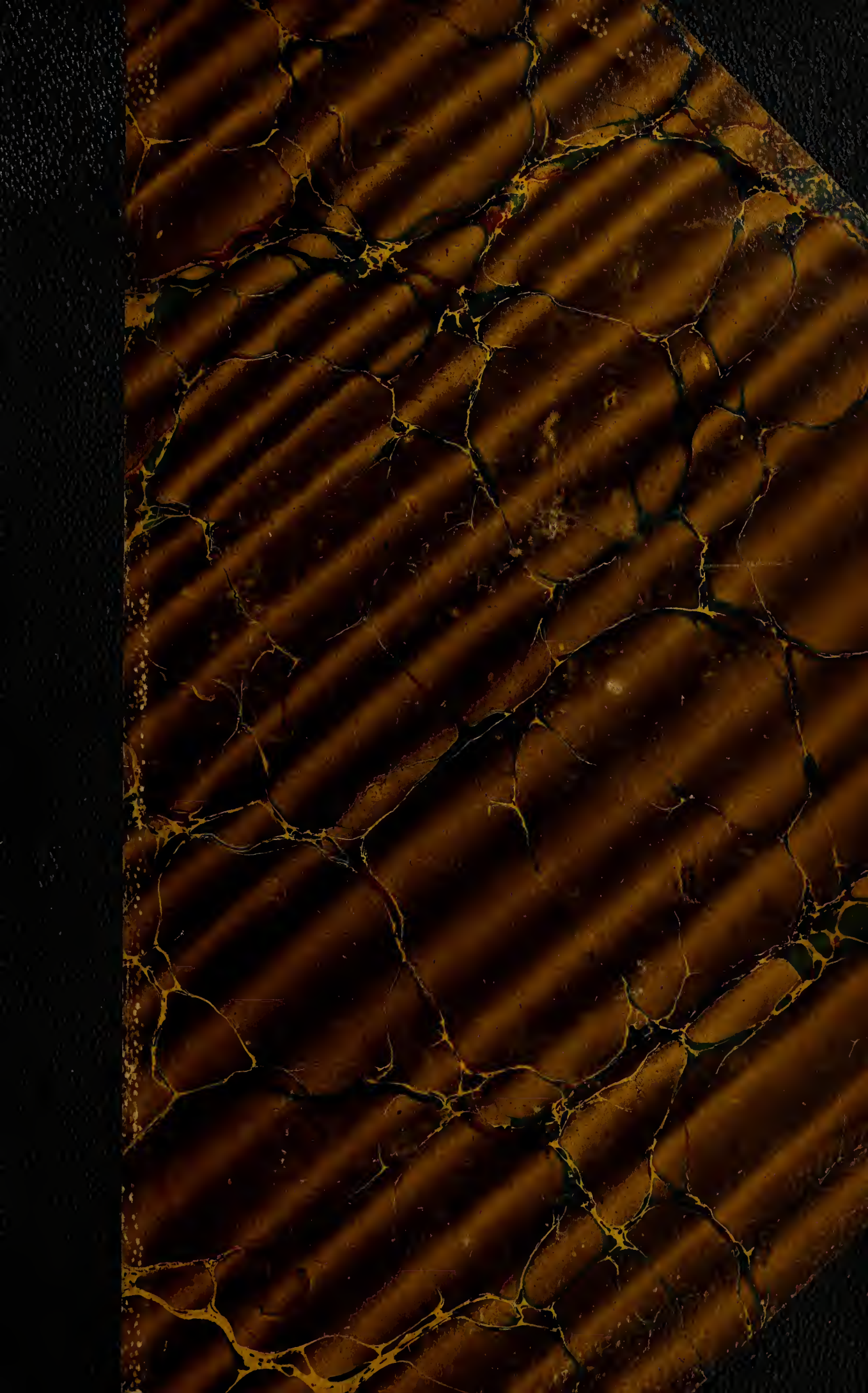

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THE

Sanitary Inspector.

A MONTHLY JOURNAL,

DEVOTED TO PERSONAL AND PUBLIC HYGIENE.

PUBLISHED BY THE MAINE STATE BOARD OF HEALTH.

A. G. YOUNG, M. D., - SECRETARY OF THE BOARD, - EDITOR.

AUGUSTA:
BURLEIGH & FLYNT:
1889.

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BOSTON MEDICAL
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SANITARY INSPECTOR.

VOL. 2, NO. 1. JULY, 1888. 25 CENTS A YEAR.

Sanitary Notes.

We send this first number of the second volume to some persons who are not subscribers. To all such, and to old subscribers, we would say that we should feel very glad to receive their remittances. We intend to make the SANITARY INSPECTOR worth much more to each reader than the mere pittance which is called its subscription price.

We send through the local boards of health a copy of the Third Annual Report to each paid-up subscriber to this journal. This is because we think that those who have signified their appreciation of the SANITARY INSPECTOR by remitting for it will be likely to be interested in the Report.

The small blanks, Form 1, for the convenience of physicians in reporting cases of the contagious diseases to the local boards of health, may be obtained at any time free of expense by sending a postal card direct to this office; or they may be obtained from the secretary of the local board of health.

When it is possible to do so, it would be better for the physician to report cases of the contagious diseases on the little blanks supplied for that purpose, rather than to communicate the facts verbally to the local board.

Please mention the SANITARY INSPECTOR when corresponding with advertisers.

An international exhibition of hygiene was to be opened in Paris on the 20th of July, and a similar exhibition will be held at the fashionable watering-place of Ostend, Belgium, during the latter part of the summer and the autumn, and the Imperial Court will be transferred to that place during the time.

At the present time quite a heated discussion is going on in Paris and other scientific circles as to whether saccharin, the new coal-tar derivative, is harmless when used as a substitute for sugar.

Let us do our duty and act up to our knowledge, and as surely as disease comes among a people by physical laws broken, so it will depart from them, if they see to it that physical laws are obeyed.—*Dr. Dallinger.*

A Swiss engineer, Herr Ritter, has made a proposal to the municipality of Paris to supply the city with water from Lake Neuchatel, Switzerland. The proposition is to take the water from the lake at a depth of 262 feet below the surface, and conduct it through a tunnel twenty-two miles long under the Jura mountains, and thence in a conduit to Paris, where, owing to the rapidity of its flow, it is thought it would arrive at a temperature of fifty degrees.

To Our Medical Correspondents.

The communications which were received from physicians in response to a schedule of enquiries which was sent out from the office of the Board of Health were not incorporated into the Third Annual Report as they have been in the two previous reports, but were reserved for use in the next report with those which may be received during the current year. It was found necessary to adopt this course for the purpose of bringing the volume within those moderate bounds within which it is thought best to keep the annual reports. We take this occasion to return our thanks to our correspondents and to say that we should feel very grateful for the recording and sending of any facts during the present year which have a bearing upon the questions which were suggested in the schedule.

Diphtheria's Deadly Contagion.

The *Medical Register* reports the case of an Ohio physician who brought home for microscopic examination a portion of the throat membrane of a diphtheria victim, and permitted his children to look at it under a glass cover. Shortly after his entire family was stricken with diphtheria, and two of the children and himself have died of the disease. Five of the children are yet down with the disease, and are in a critical condition.—*Sanitarian.*

Cheese Poisoning.

Already this season there have been reported many cases of cheese poisoning, particularly in Ohio. The State Board of Health of that State was, within a short time, notified of many cases, distributed as follows: At Urbana, sixty-five cases; Mansfield, fifty; West Liberty, thirty-five; Mutual, fourteen; Marion, fifty. The symptoms were vomiting, accompanied with much pain in the stomach, and, in many cases, voilent purging. The sickness usually lasted from twelve to forty-eight hours, and great prostration was a marked feature, with syncope in same cases; no deaths occurred. Tyrotoxicon is suspected.

Municipal Equivocation.

In the town of Messina, Sicily, there has lately been quite a prevalence of choleraic disease which the authorities persistently deny to be Asiatic cholera. This policy of denial and concealment has been too many times the resort of these southern European towns. Ostensibly fearing to scare somebody, they have been unable to carry out those measures which were needed to prevent the first small outbreak from growing into the wide spread and deadly epidemic. This kind of municipal equivocation is now-a-days pretty strongly and generally reprehended. And yet there are some persons who would counsel a less straight-forward policy in this State than is now pursued. Edmund Burke once said: "Reasonable fear is the mother of safety."

School Desks.

We wish to call the attention of building committees and school officers to a point in connection with the proper shape of school desks. The double curve which is properly found in the seat should not be re-produced in the back, but the back should spring upward and backward from the seat with a single curve. Almost all the desks which are offered by manufacturers and their agents are faulty in that the back has a double, or S curve, which rises in a direction backward, upward, and then backward. These desks are faulty just so far as they depart from the rule that the back should spring upward and then gradually backward with a single curve. That double line of beauty which seems to be so attractive to the school men does not support the lower part of the spine where support is most needed. The correct principles in shaping school-desks are shown in the cut of the New Fearless Desk which we have had the pleasure of advertising in

this journal. The desk was examined by the editor of this journal three years ago, and was, and is still, preferred to that of any other which is known. Application was therefore made for the privilege of placing it before the people of our State in our advertising columns.

Drowning Accidents.

The daily press have lately recorded a number of lamentable drowning accidents in this State, which illustrate very forcibly the need of presence of mind and a knowledge of what ought to be done at once, when drowning persons are taken from the water. In one of the cases which has lately been reported, it was said that the unfortunate still breathed when he was rescued from the water; and in the other case, that the heart was still beating, but life was extinct before the physician arrived. There was no mention that any efforts were made by the by-standers meanwhile. Sending for the physician is right in these cases, if any one is present who can be spared to go; but the all important thing is, on the instant, to empty the air passages of water, and to proceed at once to efforts to re-establish respiration. Without this, all is probably lost before the physician arrives. Every person ought to have ready for instant use that little bit of knowledge which would permit him to make an intelligent effort to resuscitate a drowned person or one suffocating from the inhalation of noxious gases. As a contribution to this end we reprint the little circular, *Treatment of the Drowned*, which has been published and distributed by the State Board of Health. It is very certain that the prompt application of its rules would have saved the two persons to whom we refer.

A Danger.

Householders, when leaving their dwelling for an outing of a few weeks or months in the summer, should be mindful of one undesirable thing which may occur in a tenantless house. The efficiency of the traps under the various plumbing fixtures is of course dependent upon the preservation of the water-seal in them. When unused this water-seal is gradually lost by evaporation; and thenceforth, until the water in the trap is replenished, an unobstructed passage from sewer or cess-pool to the interior of the house exists. Under these conditions the house walls and furnishings become saturated with sewer-air; and some of the outbreaks of diseases which sometimes occur soon after the re-occupancy of houses, are undoubtedly

due to this cause. The preservation of the trap water-seal, during the absence of the family, may be secured either by providing for the pouring of a little water through the fixtures at short and regular intervals, or by emptying the trap and filling it with liquids which will not evaporate, glycerine or oil for example.

The Champion Vault.

The secretary of the Portland Board of Health thinks this is the champion accumulative privy, and wonders what the quality of the water is in the neighborhood of it:

"We had a complaint of 'bad odor,' probably neglected privy vault. The inspector's examination showed, indeed, very great neglect, to wit: An old well used as a privy vault, which was ordered cleaned out. Three days and one night were occupied with the process with this result: a privy vault forty feet deep and containing thirty-two feet in depth of excrementitious matter, had been used forty years for above purpose, the top of the accumulation having been removed now and then."

Relation of Eberth's Bacillus to Typhoid Fever.

Reconciling the results of the bacteriological observations hitherto made on typhoid fever with epidemiological questions the author* comes to the following conclusions:

1. Typhoid fever is produced by the immigration of the typhoid bacillus. The specific bacillus is found exclusively and is present without exception in typhoid fever. Inasmuch as typhoid fever is an exclusively human disease, the negative experiments on animals should not be brought in opposition to the influence of the bacillus as the cause of the fever.

2. The bacillus finds in the intestinal canal of man the conditions for its multiplication, and from there without penetrating deeply into the tissues, can endanger the organism with its virulent chemical products.

3. The bacillus leaves the intestinal canal (rarely the *vie urinarie*) of the typhoid patient in a condition capable of infecting.

4. On account of its essential biological qualities it can retain its vitality a long while in the earth (here the saprophytic, or common putrefactive bacteria impede its multiplication).

5. In water it can live at least a week; in ice much longer.

*Dr. C. Seitz, in *Cent. fur B. u. Parasit.*

6. In milk it can undergo a notable mulplication.

7. The principal means by which the typhoid bacillus is transported, is contact with the typhoid dejections; the use of water or milk contaminated with the bacilli, or of various substances infected through the medium of the air.—*Giornale della R. Soc. Ital. D'Igiene.*

Points in House Sanitation.--II.

In our management of the kitchen wastes—liquids and solids—two rules should be closely followed.

1st. Avoid the accumulation or storing-up of all wastes in or about the house. They should be speedily removed before fermentation or putrefaction begins in them.

2nd. The different kinds of wastes, liquids and solids, should be kept seperate and not mingled.

Separating and systematizing a little it is easy to dispose of everything little by little; but if everything, liquids and solids, is poured into a common receptacle, or vault, a collection quickly accumulates, which cannot be satisfactorily disposed of and which is a source of unhealthfulness.

The solid garbage of an ordinary family may easily be burned in the fire of the kitchen range. Many families at the present time find this practicable, and altogether the most convenient way to destroy the solid refuse. Even in warm weather where oil stoves are in use, a coal fire for a short time every two or three days will destroy the garbage, and is an advantage in more ways than one. Tea-grounds and other matters suspended in liquids may be separated by keeping a small strainer with a handle over the outlet of the sink. In this way almost everything not a liquid may be burned.

If at times in the summer it is inconvenient to have a fire for the cremation of kitchen garbage, a short trench in the garden, gradually filled and covered. will be a not very objectionable temporary expedient.

In the disposal of kitchen slops, we must bear in mind that we have to deal with liquids which are capable of creating an offensive and dangerous nuisance, when wrongly managed. When we have allowed kitchen sewage to saturate the ground in close proximity to the dwelling, we have permitted a condition which is dangerous to the household; and when we have put in a drain, no matter where its outfall is, which offers a free passage for "sewer-gas" into the interior

of the house, we are often called upon to pay the penalty for our carelessness.

A tight pipe drain for the kitchen, with an efficient trap beneath the sink, is by all means the best device; and for the ultimate disposal of sink drainage, we would refer our readers to the methods which are illustrated by Mr. Jordan, on page 276 of the Third Annual Report.

But even when there is no attempt at plumbing, there is no excuse for a filth-saturated soil immediately about the house. It is inconvenient to transport slops by hand to a safe distance, but it is more inconvenient to suffer the ill health or the acute sickness which often occurs as the result of neglecting such reasonable precautions.

The slops from the private kitchen, when allowed constantly to fall upon one spot near the house, soon give rise to an unpleasant nuisance. Distributed, however, over the surface of a small garden plat or other piece of ground, they will all be safely disposed of. For this purpose a very few square rods are sufficient. The capacity of the ground for taking care of the sewage is increased if it is covered by vegetation. Ground chosen for this purpose should not be near the family well, though at equal distances sewage disposed of in this way does not endanger the water supply so much as when falling constantly upon one spot.

Do not store perishable garbage in the ash barrel.

It is not a neat system of household economy to make some part of the premises repulsive by the presence of a barrel for the reception of the mingled garbage of the kitchen. The favor which is conferred by the neighboring owner of a pig is more than cancelled by the annoyance of the receptacle and its contents.

The Artificial Feeding of Infants.

The most appropriate food for the infant is the mother's milk and in substituting any other during the earlier months the child is subjected to serious dangers. Annually thousands of children die in this country from diseases of the digestive tract, and many others that survive have the foundations laid for puniness during childhood and for lack of vigor in their later years. It is a matter of common observation that the great majority of these cases of sickness are among bottle-fed babies. The great prevalence of the intestinal diseases during the warm season is due, no doubt, to a combination of causes: heat, chills, food which taxes too severely the digestive organs, the

debilitating influence of foul air, especially such as is contaminated with sewer-air or the gases arising from fermenting or putrifying organic wastes, polluted water, etc.

But, undoubtedly, the most potent cause of the diarrhœal diseases of infants is to be found in changes in the composition of the milk due to the presence of germs of fermentation. The milk of the healthy cow in the udder is aseptic, but in the process of drawing the milk, transporting it and storing it away, there are abundant opportunities of contamination with micro-organisms derived from the air and many other sources. Most of these germs find in milk a very congenial field for rapid development and multiplication. If these micro-organisms are excluded or destroyed, milk may be kept indefinitely without undergoing change, as fruit, meat, etc., is kept by means of canning.

The strong conviction that the diarrhœal diseases of children are largely, at least, of bacterial origin has led to considerable recent work to determine the best methods of destroying the germ contents of milk for children's use and keeping it aseptic, or *sterilizing* it.

One method which preserves the milk for a considerable time is boiling it, transferring it immediately to small clean bottles and preserving it on ice.

A method of sterilizing milk which has attracted considerable interest in Germany and which has lately been brought to the notice of the medical profession in this country by Dr. Caille of New York is that of Dr. Soxhlet.

The essential part of the sterilizing apparatus consists of:

1. Small bottles (4 to 6 ounces) provided with the Soxhlet stoppers of rubber and glass combined. The rubber stopper fits well into the neck of the bottle and is perforated to receive a slender glass stopper or plug.

2. A tin tray for ten bottles which fits into a covered tin pot or pail in which the bottles can be boiled.

The method of sterilizing the milk is as follows: The bottles are filled nearly full, a rubber stopper is pressed into the neck of each bottle and they all, in the tray, are placed in the boiler which has previously been half filled with water. After the water has come to a boil the glass plugs are pressed into the perforated rubber stoppers thus hermetically closing each bottle. The milk remains in the boiling water fifteen or twenty minutes longer under pressure. Milk so prepared will, according to the experiments of Dr. Caille, keep sweet eighteen days.

Each bottle is designed to contain the milk for one feeding. As many bottles should be prepared at once as will be needed in the twenty-four hours.

When wanted for use a bottle is to be put into warm water a few minutes, the glass plug removed and a rubber nipple or tip slipped over the mouth of the bottle.

The mingled milk from several healthy cows is preferable to that from one cow only. The temporary disturbances in a single cow of the herd which are liable to affect the healthfulness of the milk would be likely to affect the child much more if the milk from a single cow were used than if the milk from all were mingled.

The utmost care should be taken to have the milk and everything with which it comes in contact clean. All the utensils in which it is kept should be thoroughly scalded, with water actually boiling.

Unless milk is carefully sterilized and subsequently protected from the germs of fermentation it should be kept in a cool place, preferably on ice.

Cow's milk should always be diluted with water. The mixture in the earlier weeks should consist of only one-fourth milk, later one-third, still later one-half. The diluted milk should be slightly sweetened and a little fresh new cream added to the extent of about one-eighth of the bulk of the whole mixture. Sugar of milk is preferable to cane sugar and may be added in the proportion of one drachm to the pint of the mixture. Lime water to the extent of one-fourth part of the whole mixture may be substituted with advantage especially when undigested curds appear in the stools of the child.

Lime-water can be prepared by putting a piece of unslaked lime as large as a walnut into a one-quart or two-quart glass bottle or jar, full of clear, pure water, stirring thoroughly, and letting it stand until the lime-water is perfectly clear. It may be used from the top and more water added to the lime as is required.

Babies often suffer with thirst when a few teaspoonfuls of water is needed instead of milk. Only the purest of water should be given them. If the water is of questionable quality boil it thoroughly and cool it.

Food should be given at regular intervals. A mistake is often made in over estimating the capacity of the baby's stomach.

The following table from Dr. Rotch of the Boston City Hospital gives useful information about the quantity of food needed, etc. :

Age.	Intervals of Feeding.	Average Amount at Each Feeding.	Average Amount in 24 Hours.
1st week.	2 hours.	1 ounce.	10 ounces.
1 — 6 weeks.	2½ hours.	1½ to 2 ounces.	12 to 16 ounces.
6 — 12 weeks, and possibly to 5th or 6th months.	3 hours.	3 to 4 ounces.	18 to 24 ounces.
At 6 months.	3 hours.	6 ounces.	36 ounces.
At 10 months.	3 hours.	8 ounces.	40 ounces.

Never use the nursing-bottles with the long glass and rubber tubes. It is impossible to keep the interior of the tubes cleaned of all fermenting matter. The simple rubber nipple which can be slipped over the mouth of an ordinary bottle is the best.

TREATMENT OF THE DROWNED.

TWO THINGS TO BE DONE:

RESTORE BREATHING; RESTORE ANIMAL HEAT.

RULE I.—**Remove all Obstructions to Breathing.** INSTANTLY loosen or cut apart all neck and waist bands; turn the patient on his face, with the head down hill; stand astride the hips with your face towards his head, and, locking your fingers together under his belly, raise the body as high as you can without lifting the forehead off the ground (Fig. 1), and give the body a smart jerk to remove mucus from the throat and water from the windpipe; hold the body suspended long enough to slowly count ONE, TWO, THREE, FOUR, FIVE, repeating the jerk more gently two or three times.

Fig1.

RULE 2. Place the patient face downward, and maintaining all the while your position astride the body, grasp the points of the shoulders by the clothing, or, if the body is naked, thrust your fingers into the armpits, clasping your thumbs over the points of the shoulders, and **raise the chest as high as you can** (Fig. 2) without lifting the head quite off the ground, and hold it long enough to *slowly* count ONE, TWO, THREE. Replace him on the ground, with his forehead on his flexed arm, the neck straightened out, and the mouth and nose free. Place your elbows against your knees and your hands upon the side of his chest (Fig. 3) **over the lower ribs and press downward and inward with increasing force** long enough to slowly count ONE, TWO. Then suddenly let go, grasp the shoulders as before and raise the chest (Fig. 2); then press upon the ribs, &c. (Fig. 3). These alternate movements should be repeated 10 to 15 times a minute for an hour at least, unless breathing is restored sooner. Use the same regularity as in natural breathing.

Fig. 2.

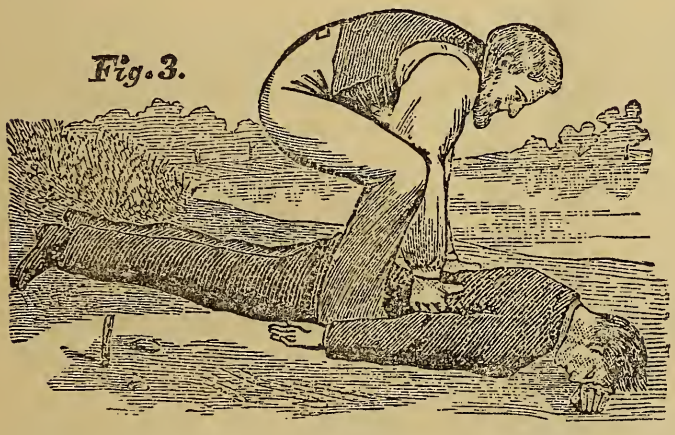


Fig. 3.

RULE 3. After breathing has commenced, RESTORE THE ANIMAL HEAT. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. *Warm the head nearly as fast as the body, lest convulsions come on.* Rubbing the body with warm cloths or the hand, and slapping the fleshy parts may assist to restore warmth, and the breathing also. If the patient can SURELY swallow, give hot coffee, tea, milk, or a little hot sling. Give spirits sparingly, lest they produce depression. Place the patient in a warm bed, and give him plenty of fresh air; keep him quiet.

BEWARE

AVOID DELAY. A MOMENT may turn the scale for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing,—ARTIFICIAL BREATHING IS EVERYTHING,—is the ONE REMEDY, all others are secondary.

Do not stop to remove wet clothing before efforts are made to restore breathing. Precious time is wasted, and the patient may be fatally chilled by the exposure of the naked body, even in the summer. Give all your attention and effort to restore breathing by forcing air into and out of the lungs. If the breathing has just ceased, a smart slap on the face, or a vigorous twist of the hair will sometimes start it again, and may be tried incidently, as may, also, pressing the finger upon the root of the tongue.

Before natural breathing is fully restored, do not let the patient lie on his back unless some person holds the tongue forward. The tongue by falling back may close the windpipe and cause fatal choking.

If several persons are present, one may hold the head steady, keeping the neck nearly straight; others may remove wet clothing, replacing at once clothing which is dry and warm; they may also chafe the limbs, and thus promote circulation.

Prevent friends from crowding around the patient and excluding fresh air; also from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

DO NOT GIVE UP TOO SOON: You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it.

In suffocation by smoke or any poisonous gas, as also by hanging,—proceed the same as for drowning, omitting effort to expel water, etc., from the windpipe.

In suspended breathing from effects of chloroform, hydrate of chloral etc., proceed by Rule 2, taking especial pains to **keep the head very low,** and preventing closure of the windpipe by the tongue falling back.

The foregoing method, originally published by the State Board of Health of Michigan, has the sanction of other State and City Boards of Health, and is fully endorsed by the State Board of Health of Maine, and printed for general distribution as a life-saving measure.

Address STATE BOARD OF HEALTH, Augusta.

PLEASE PRESERVE THIS.

Study it thoughtfully, in order to act efficiently, if occasion requires.

THE

SANITARY INSPECTOR.

VOL. 2, NO. 2. AUGUST, 1888. 25 CENTS A YEAR.

Sanitary Notes.

We should feel grateful to the friends of this little journal if they would take pains to call the attention of others to it. A few sample copies will be sent to any person who desires them for distribution.

As far as finances are concerned the SANITARY INSPECTOR has succeeded in swimming through its first year with its nose just above water. It has been printed and sent out without cost to the State.

The yellow fever news from Jacksonville and some other towns in Florida indicate that there is serious danger, not only to that State, but to others which have communication with it or receive its refugees.

Let it be clearly understood, and the sooner the better, that a hygienic life does not require the abandonment of one single rational pleasure or comfort of life. As for the care that is necessary in order that we may have healthy surroundings, it is no more than good house keeping calls for.—*The Annals Hygiene.*

The *Lancet*, referring to the recent experiments of Brown Sequard in condensing the organic matter of the breath and determining the degree of its poisonousness says, that "it is quite probable that a man execretes from his skin and lungs in twenty-four hours more poison, though in a more diluted form, than a snake manufactures in the same time."

It is said that the Chinese enjoy a comparative immunity from typhoid fever, and the reason that is assigned is that cold unboiled water is rarely used by them when tea can be had.

The medical officer of health for Edinburgh, in a recent report on tuberculosis, expresses the belief that that disease is largely on the increase, and urges further legislation to control it.

As a business enterprise Soxhlet's method of sterlizing and preserving milk on a large scale for the supply of cities has been begun by a well-known Swiss milk producer. The milk is sterlized immediately at the place of its production, and already it is sent to various French and German towns. It is predicted by some of the foreign journals that this is the begining of a business which has a great future.

At a coroner's inquest, recently held in Putney, the death of the wife of a printer was shown to be due to blood poisoning, caused by offensive effluvia, and Mr. F. Grun stated in evidence that he had recently had a case in which a jug of milk was allowed to stand in a cupboard, through which a soil pipe passed, and the person who drank the milk died in three days afterwards.—*The Sanitary Record.*

Leicester, Eng., has been noted for the prevalence of the summer diarrhœal diseases. During last season there were nearly 10,000 cases of this kind, and the disease was not by any means confined to children. As we learn from the *Lancet*, Dr. Tompkins, the health officer of that town, was engaged during the summer of 1887, in carrying on a series of investigations as to the excess or otherwise of micro-organisms and their spores in the air of various parts of the city, and he found them varying in number from 1600 to 6000, the former having been found outside of the "diarrhœal area," and the latter in those districts where the disease was most prevalent.

An Epidemic of Pneumonia.

Since last November quite an extensive epidemic of pneumonia has prevailed in Middlesbrough, Eng., and a local paper states that 275 deaths have occurred from that disease. Dr. Ballard, one of the inspectors of the Local Government Board, has been sent to that town to institute an enquiry in regard to the cause.

Infant Mortality.

The Italian statistician, Signor Bodie, has published some figures showing that ten per cent. of all infants in Europe died within the first month, twenty per cent. before the end of the first year, and thirty-three per cent. of the remainder during the first five years. Hardly seven children out of ten reached the completion of their sixth year.—*The Medical Record.*

Tenement Houses in Lowell.

The last annual report of the Board of Health of Lowell refers to the unsanitary condition of many of the tenement blocks in the city, and says that it is high time that the principles of sanitary science should be brought to apply here, but they must be supported by municipal authority, as, in 1886, 165, and in 1887, 207 persons died in these tenement houses, and were buried at the city's expense.

Holidays for Sick Children.

One of the meritorious forms of charity, which deserve to be encouraged, is the sending of sick children from their unhealthy city homes, that they may breathe the fresh air of the country for a few weeks. An innovation in this work has been introduced by the Germans, which is worthy of note. The Berlin society which interested itself in the good work, finding that the means at its disposal were not sufficient to send a large number of children a long way into the country, economized by erecting large tents near the city, in places where the two requisites of pure air and water can be found. In this way the cost of transportation was largely reduced, and consequently about five times as many children as formerly can be accomodated.

A School Epidemic.

Dr. Russel, Medical Officer of Health, for Glasgow, has published a full report of a peculiar outbreak of disease which took place last spring in a Catholic Industrial School in that city. Of the 207 boys in the Institution 66 were attacked within ten or twelve days, and of these cases five were fatal. Of the 194 girls in the school only two sickened, and both of these worked in the common kitchen. There is some difference of opinion in regard to the nature of the outbreak; but it is generally believed that it is an instance of an epidemic or infectious pneumonia, due in part at least to the marked insanitary conditions and surroundings of the school. An old grave yard is situated close at hand, in which many cholera victims in 1848 were buried, and which has of late years been overcrowded with interments. The condition of the school itself is remarkable also for its general unhealthfulness.

A Hint for Travellers.

An exchange notes as a wise precaution the act of a Philadelphia physician, who, while riding in a railway car, gave one of his chil-

dren a drink of water by spreading a clean handkerchief over the top of the glass to prevent the contact of the child's lips with the tumbler. A still better expedient with the same object in view has often been resorted to by the writer, and his children have been instructed to practice the same precaution when obliged to drink from a mug or tumbler on the cars, steamboats, or at public drinking fountains. It consists in bringing the lower edge of the drinking cup beneath the lower lip, instead of letting it come in contact with the mucous membrane of the mouth. Teach the children to stick their whole bill into the cup when they take a drink under such circumstances; for it avoids a real and considerable danger of infection from certain contagious diseases, some of which are talked about much, and some are not.

Persistence of Infection.

A case has lately been communicated to the *Medical Record*, in which scarlet fever poison a year old still showed its capacity for mischief. It seems that one of the house servants had nursed a case of scarlet fever in a distant city just about a year before, and unpacking a trunk which contained clothes which she had worn while acting as nurse, a little eight years old girl, who was present when the trunk was unpacked, was soon attacked with scarlet fever. The infected clothes had been packed up and the trunk had not been reopened until the time to which we refer.

Small-Pox in Germany.

What an almost universal vaccination of a people can do in diminishing the small-pox death-rate is shown by recent statistics for the German Empire, in which the practice of vaccination and re-vaccination is compulsory. For the year 1886, the small-pox death-rate for the whole empire was only .03 to each 100,000 of the population. In the larger cities it ranged from .07 in Berlin, to 3.6 in Hamburg. Compared with the German cities, the rates in other European cities ranged from .06 in London to, in Liverpool, 4.9; Paris, 9.0; Brussels, 11.4; St. Petersburg, 15.3; Moscow, 34.1; Vienna, 26.2; Venice, 51.6; Rome, 134.3; Genoa, 153.8; Budapest, 368.7; Marseilles, 545,3. to the 100,000. More than two-thirds of the deaths from small-pox in Germany were in cities like Hamburg, which have a large foreign shipping trade, and in those districts which lie immediately along the Russian and Austrian borders.

Vital Statistics in Maine.

Letters come to this office occasionally making enquiries about our vital statistics. The last comes from England from one who is interested in getting at the facts in regard to the record of births, marriages and deaths in Maine. We are humiliated every time in having to respond that we have no provisions whatever for collecting and recording these important facts, which have so intimate a connection with the progress and prosperity of the State. If we should refer enquirers to the census returns of eight years ago we should incur the ridicule or the disparaging appreciation which we should deserve. Every one of our sister New England States carefully collects and records the facts connected with its births, marriages and deaths, and when we wish to get an approximate answer to certain questions we compare the recorded facts in New Hampshire, Vermont, Massachusetts, Rhode Island, and so on, and the census returns, and then guess what they are here. We are then undoubtedly in a position to make some very trustworthy generalizations for Maine!

To Local Boards of Health.

We would ask you to report all cases of contagious diseases which occur in your town very promptly to this office. Report at once when the first case is discovered. Keep constantly on hand ready for use at a moment's notice a few of the following blank forms and circulars:

Form 1. Physicians' blank for reporting cases of contagious diseases to the local board.

Form 2. Blank for report of contagious diseases from local board to State board.

Form 7. Blank for weekly report during the continuance of the outbreak.

Form 3. Blank for the notification of teachers of infected houses and families.

Form 4. Blank for the re-admission of scholars from houses where there have been infectious diseases.

Form 44. Diphtheria: its prevention and restriction.

Form 45. Scarlet Fever: its prevention and restriction.

Form 46. Typhoid Fever: its prevention and restriction.

Form 47. Is Diphtheria Contagious?

If at any time any of these should not be on hand they will be forwarded from the office of the State Board by notifying the secretary.

Italian Sea-Side Resorts for Children.

The beneficial influence of the sea-side air for sick school children of the poorer classes was first appreciated in Italy, and the idea was there first put into practice by the establishment of hospices, or sea-side resorts, for this class of little ones. Since the establishment of the first in 1856, twenty of these stations have been built, thirteen on the Mediterranean and seven on the Adriatic coast. More than one hundred special committees send thousands of suffering children to to the sea-side every year. According to the report of the general secretary of the Italian Public Health Society, 25,000 sick and scrofulous children have been received and treated at the Mediterranean stations. Of these, 29 per cent were cured, and 62 per cent improved. At the stations of the Adriatic the number of the little patients has been 20,000, with 27.5 per cent of cures and 61.3 per cent of improvements. At the present time these sea-side stations for scrofulous children exist in almost all civilized countries.—*Zeitschrift für Schulgesundheitspflege.*

Co-operation.

There is no help but in co-operation on the most extended scale possible, individual, municipal, state and national. The individual must be compelled to give up his liberty to injure his neighbor. The great city must be restrained from converting the stream that flows past it into a sewer that shall poison the small villages that cluster about its banks lower down in its course. The country farm house must no longer, when a case of enteric fever occurs there, be a menace to the water that supplies a thousand city houses. No State should permit its own causes of diseases, whatever they are, persons or things, to be transported into another State, or pollute the common water supply. Lastly, the General Government should take cognizance of those causes of diseases which can be controlled by no other power, or which are so general that the responsibility for them is national, or so overwhelming in their ravages that smaller political bodies have lost the power, if not the will, to protect the people.—*—Dr. Wolcott.*

Diphtheria in the Insane Hospital.

Unfortunately diphtheria was introduced into the State Insane Hospital in the latter part of June, and, as is often characteristic of that disease, it shows a tendency to re-appear again and again after it is

hoped that it has been stamped out. The introduction of the infection seems to have been as follows: A young man whose home is in Vassalboro' returned to that place from New York June 15. Two days afterward he was attacked with a rather severe throat disease from which he suffered four days, June 17th to the 20th. He had no medical attendance, but kept his bed two of the days. On the 21st he went to the Hospital as an attendant. On the 24th or 25th his brother, who had been with him at home, was attacked with diphtheria and was attended by a physician. The first cases of diphtheria at the Hospital occurred a few days after the arrival of this nurse from Vassalboro', and the most of them, if not all, had come in contact with him. At the time of the present writing there have been eighteen cases among the patients and attendants, including two questionable cases. Five of these have proved fatal. One of the fatal cases occurred in a maniacal patient. Others have been complicated with other diseases which have had as much to do with the fatal issue as the diphtheritic attack. The later cases have been mild and no recent deaths have occurred. Very careful measures of isolation and disinfection are in operation and it is hoped by the management that the outbreak may soon be at an end.

Cholera and Water in India.

Dr. Fürnell, in a lecture delivered before native audiences in India on "Cholera and Water in India," and published last year in London, refers to the town of Guntur as a promising example of improvement. Formerly the habits of the people as regards their water tanks and reservoirs were very careless and filthy. "Here were found people washing their mouths of a morning and spitting the foul water into the reservoirs, washing their soiled clothes, bathing their persons, using the banks of the tanks as privies, and doing other dirty acts, which the authorities ought not to have allowed." The result was, that the place was a sort of "head center" for cholera. Presently there came to the town, fortunately, a guardian angel in the shape of one Dr. Biggwither, who was made vice president, and he set vigorously to work to clean this Augean stable. In spite of opposition he had the reservoirs and tanks protected from pollution by men appointed to watch them. This town, which always suffered severely with cholera before these measures were taken, has now been free from it for the last twenty years!

Cholera in Sea-water.

In the cholera outbreak in Trieste in 1886 there were 900 cases of the disease, of which 560 ended fatally, or a little over 62 per cent. A recent review of the municipal report* for that year gives some facts in regard to the origin of the first six cases, which is worthy of being taken into consideration in studying the question of the capacity of the cholera germ to retain its vitality in sea water, and thus to make this water a possible medium for transmitting the infection. The interest in the causation of the first six cases is heightened by the fact that the patients all came immediately under medical observation, four in hospital and two in their respective dwellings; that each case ended fatally in twenty-four hours; and that, with one exception, the physicians were enabled to confirm the diagnosis by means of an autopsy and a microscopical examination.

It appears that the first case occurred June 7, in a thirty-two years old sailor, aboard a ship in the harbor, which had come from cholera ports.

The second case was in a ship-carpenter fifty-three years old. He had worked on board the same ship eighteen days, the last day being June 4, a few days before the outbreak of the first case.

The third case followed June 13, and there could be no connection between this case and the first two cases, unless the following fact furnishes a clue to such relation. It seems that the inhabitants of Trieste had been in the habit of using the sea-water for its reputed medicinal qualities, and they generally took the water for this purpose from the harbor, and often near the outlet of the sewers. This third patient had habitually drank a glass of sea-water every morning. She was fifty-four years of age.

On the 25th of June, a laborer, thirty-four years old, who had been taking his daily dose of harbor-water, was attacked.

The fifth case occurred on the same day. The patient, a girl of eleven years, had attended school the day before as well as ever, and had, as was usual with her, taken a sea bath and, on this occasion, during her sports in the water, had accidentally swallowed a considerable quantity of water.

The sixth case came to the knowledge of the sanitary authorities June 29th. The patient, a man of eighty years of age had the day before, while bathing, drank a glass of sea-water.

*Centralblatt f. all. Gesundheitspfle.

The reviewer closes by referring to a case which occurred later during the epidemic, and which ended fatally within twenty-four hours, and which on account of the accompanying circumstances is endowed with a particular interest. A young smith, nineteen years of age, had taken a sea bath on the day before his death, and while bathing had drank a glass of sea water, in order to ridicule the idea that the drinking of the harbor water was a cause of the cholera.

The Hearing of School Children.

Dr. C. Keller, of Cologne, has recently communicated a useful paper* on the sense of hearing and its relation to the schools. He refers to the results of various investigations for determining the comparative proportion of children who are deficient in sharpness of hearing. Dr. W. Von Reichard, of Riga, found among 1055 scholars of the gymnasium 22 per cent. who did not hear well. According to Weil, who examined 5905 of the pupils in the mixed and intermediate schools of Stuttgart, the percentage varied with the social character of the school from 10 to 30. Dr. Sexton, of Washington, found among 570 pupils in different institutions 13 per cent. who were hard of hearing. Moure, of Bordeaux, found 17 per cent., Gellé, of Paris, 22 to 25 per cent., Bezold, of Munich, 25 per cent. who were lacking in normal acuteness of hearing.

We are reminded of the evil influence which hardness of hearing exerts upon the progress of the child: even a very moderate diminution of sharpness of hearing puts the scholar at a disadvantage, as compared with those of normal hearing power. Though the child may appear to hear very well, a constant tension of the mind is required to enable him to understand, which he does partly by hearing and partly by filling the gaps by a process of mental combination of words which are heard with those which are not. Unfortunately this physical defect of the scholar is not understood by the teacher and others, and the trouble is attributed to want of attention or stupidity.

Gellé, of Paris, tests the acuteness of hearing by placing the pupil in one end of the school room, with his back turned toward the speaker, and dictating to him. The distance backward from the scholar is marked on the floor in metres. The person who is making the test stands at first at the most distant part of the room, and

*Zeitschrift für Schulgesundheitspflege.

dictates in a clear but not loud voice, while the scholar writes. If, at that distance, the pupil has any difficulty in hearing, the speaker gradually approaches, until the pupil understands perfectly, which will be shown by his writing correctly and without hesitation the matter dictated. According to the distance at which the scholar hears readily, he is ranked and placed in the school room. If, for instance, he hears at a distance of five metres he is placed within that distance from the teacher's desk.

Many of the cases of defective hearing are the sequels of certain acute infectious diseases, notably measles and scarlet fever. Another large class results from the chronic inflammatory conditions of the nose and throat. We are warned of the evil influence of draughts in badly ventilated school-rooms, and particularly from windows. Children should not be permitted to wear woolen or other scarfs about their necks while in the school-room; but in winter, when they go out, they should have sufficient clothing to keep them comfortable.

Points in House Sanitation.—III.

We have already given some hints in regard to the management and disposal of kitchen garbage and kitchen slops. We will in this place offer some suggestions as to the disposal of excreta in summer cottages, and country and village houses where the water carriage system is not available. Under the circumstances which are found in the majority of homes of this kind these wastes may be disposed of either by the dry or wet method. The dry earth-closet and some of the other similar conservancy methods will be described later; at present we will suppose that the only resource is that worst of all, the common privy.

If then a mass of putrefactive organic wastes must be harbored in the vicinity of the dwelling, let it be as small a collection as possible. Do not make the vault the common receptacle of all the kitchen garbage and laundry slops. Reserve it for its legitimate use only. Carry out systematically the method of separate disposal of the various wastes, which has already been recommended.

The vault should be neither deep nor large. It should be perfectly water tight, and it may be made so by laying it in brick and cement, or having it consist of a movable matched-plank box, coated outside and inside with coal-tar applied hot. It should be so located that

neither rain-water nor ground water may have access to it. The vault should be emptied at not too long intervals.

Whether the construction and arrangements are in accordance with these suggestions or in disregard of them all, disinfectants should be used regularly and frequently. For this purpose the following solution is to be recommended:

SOLUTION A.

Coloride of Lime,	6 ounces
Water,	1 gallon

Mix and dissolve. The dry chloride of lime should be bought in considerable quantity, and kept in a tightly covered wooden or earthen-ware vessel. A gallon of the solution used weekly or twice a week will cost only from five to ten cents for each week.

If the odor of the chloride of lime should be especially disliked, the following may be used, if it is superintended by some intelligent and responsible person:

SOLUTION C. "BLUE SOLUTION."

Corrosive Sublimate,	4 ounces
Sulphate of Copper,	1 pound
Water,	1 gallon

Mix and dissolve. Label, *poison!*

To dissolve this, put the corrosive sublimate and the sulphate of copper into a one gallon jug and, filling the jug two-thirds full of water, shake it thoroughly at intervals for a day. When the solution is complete, fill the jug with water.

This standard solution is thirty-two times stronger than is needed. To prepare the solution for use, add four ounces (a gill, or from half to one teacupful) of the Solution C to one gallon of water in a wooden pail. The cost of this will be about the same as that of Solution A. The corrosive sublimate, of course, is poisonous; but only the danger of accidental swallowing will accompany its use. Undissolved corrosive sublimate should never be kept in the house as there is a possibility of its being mistaken for Epsom or some other kind of salts.

It is very doubtful whether it is possible completely to disinfect the contents of a vault, where there is a large accumulation of its contents.

Arsenical Dyes in Drapery.

In spite of many warnings impressed by precept and experience, arsenical pigments continue to be used in house decorations and to

injure health as heretofore. A typical example of poisoning due to this cause is reported to have occurred quite lately in the Civil Engineering College at Cooper's Hill. The facts related are the following: Some of the students, with an eye for the beautiful, had it appears, adorned their apartments with cretonnes and Indian muslins of great brillancy. About the same time a singular epidemic became prevalent in the establishment, and was attended with an irritable condition of the ailmentary tract and other symptoms characteristic of the action of an irritant poison suspended in the atmosphere. The presence of arsenic was naturally suspected, but the wall papers did not contain it. The cretonne and muslin decorations, however, were found on examination to be highly arsenical, and one piece, it is said, contained rather more than nineteen grains of this poison in the square yard. Here then was the source of an otherwise inexplicable state of ill health, which had been observed among the students for the past year. Happily the cause at work was detected before any fatal consequences had occurred, and probably a liberal allowance of exercise in the open air had much to do with this result. The lesson taught by this occurance is not a new one. It merely rehearses the characters of a once familiar danger, and shows that it still exists.—*The Lancet.*

Chicago Ladies and Sewer-Gas.

It may be just as well to remark right here that there is not a woman in Chicago who is not an expert on sewer-gas. She can sniff it where it is not, where it has never been known, and probably where it never will be, but she is sure it is sewer-gas. The lady mentioned above is the occupant of a second story apartment in a South-side flat-building. The plumbers were at work on the first floor. At noon one day they were eating their lunch, and one of them had some Limberger cheese which he was holding on a stick over an open fire-place; naturally, the odor was somewhat stronger, and perhaps somewhat more penetrating than usual. It was wafted up the chimney through the cracks and fissures and into the apartments of the family on the second floor. Suddenly the lady came down and wanted the plumbers to come up and find where the sewer-gas was escaping. She said the whole house was permeated with it. The plumber was responsible for "sewer-gas" in that house at least. —*Sanitary News.*

[Form 46.]

Supplement to Sanitary Inspector.

TYPHOID FEVER,

ITS PREVENTION AND RESTRICTION.

(REVISED EDITION.)

Issued by the State Board of Health of Maine.

There is a pretty strong conviction in the minds of sanitarians and physicians that typhoid fever is a disease which has but little right to exist in a civilized community. Such thoughts regarding things inevitable and necessary are neither reverential nor profitable, but intelligently directed efforts to diminish the prevalence of typhoid fever have been followed by so large a measure of success that we are justified in regarding it as one of the *unnecessary* diseases.

The prevention of typhoid fever must rest very intimately on a knowledge of its cause, or, at least, on an acquaintance with the known laws in accordance with which that cause operates. The essential cause of the disease is generally believed to be a minute organic germ, which is given off by the sick, and may be transmitted to the well in several ways.

The poisonous germ is not thrown off through the breath, or in the exhalations from the skin, as is the case in some other infectious diseases; but in this disease it is contained in the discharges from the bowels, and possibly also in that from the kidneys. **Hence the proper disposal of the excreta is a matter of the first and highest importance.**

Another conclusion which is generally accepted is that the disease germ, as it leaves the body, is not yet in a condition to be dangerous, but that in a short time, through a fermentative process, it acquires a dangerous character; **therefore, the need of the disposal of all discharges from the patient without delay.**

Still another thing which experience seems to teach, and which the public should bear in mind, is that this fever-germ may be not only

developed but multiplied outside the human body. That the fever patient is in some way a factory for the time being, engaged in producing and throwing off a poison dangerous to other persons, is a matter of common belief; but, of late years, there has come a settled conviction that this poison, or disease germ, as we now call it, may be, and very often is, developed and multiplied to a dangerous extent outside of the human body, when it is once introduced into places which present the favoring conditions of moisture, warmth and filth. **Hence the vital necessitity of care not to plant the dangerous seed in soil congenial to it.** Such dangerous localities about our homes are ill-kept water-closets, privies, cess-pools, drains, and earth which is saturated with uncleanliness.

The poison of typhoid fever may sometimes be received into the system by breathing it in; but, in undoubtedly the great majority of cases, the disease germ finds its way into the intestinal canal by means of the food and drink. Reflection will show, and experience teaches, that there are many ways in which our food and drink may become contaminated with the germs. Some of the more frequent ways are these: The discharges are thrown into the privy or upon the ground, whence they soak, sometimes long distances, through the soil into the family well. The soiled clothes of the patient are washed, and the water carried by a loose and leaky drain which runs too near the well. Some kinds of food and drink are very absorptive of disease germs, and being kept too near the patient, become contaminated through the air. Many cases are known where milkmen, with fever at their own homes, have caused serious out-breaks of the disease among their customers, by keeping the milk, before it was distributed, too near the sick, by diluting it with contaminated water, or even rinsing the cans with the impure water.

PREVENTION.

What has already been said about the development of the typhoid fever germ and the ways it is taken into the system pretty plainly indicates the line of our endeavor in preventing it.

It is to be borne in mind;

1st. That filth, if it is not the direct cause, is at least the *nidus* (nest) in which the cause, or germ, may be developed.

2d. That the poison is principally given off from the bowels.

3d. That it is usually received into the system in the food and drink.

1. At all times, as well in the absence as during the presence of typhoid fever, let us try to keep our premises and their surroundings as

pure and clean as possible. Of all forms of filth none others are so dangerous to our homes as that of the "hole-in-the-ground" privy, and that in and about our sink drains. The former should never be tolerated, nor the latter, either, in its usual forms.

Filth, in its sanitary signification, includes not only the grosser forms but also the less tangible and more *respectable* kinds which are too often ignored. The impalpable but not inodorous kind in the air of unventilated bedrooms is disgusting and dangerous; the sewer-air which leaks from faulty water-closets or defective drain pipes in the homes of the wealthy consigns many to the tomb; the emanations from rotting chips or sawdust, the exhalations from decaying vegetables in the cellar,—all these may dangerously pollute the air, and should be avoided.

2. All discharges from the fever patient should be received in a vessel containing a pint or more of Solution A,* Solution B, or Solution C (1 : 500) and kept covered by the disinfectant three or four hours, and then buried in the earth where they cannot by any possibility find their way into wells, springs or brooks. **They should never be allowed to mingle with any kind of filth, in a privy or elsewhere.**

The clothing, both of bed and patient, should be disinfected by dropping it into a tub containing several gallons of Solution C, (1 : 2000) or Solution E, and should be kept therein until it can be boiled. After death or recovery disinfect the room with sulphur fumigation, followed with washing the floors and other wood-work with Solution A, Solution C, or Solution E.

3. As far as concerns the personal hygiene of nurses and attendants, it may be said that, if the foregoing preventive measures are carefully carried out, there is hardly a possibility of their taking the disease; in fact, under such conditions, cases in which the attendants have taken the disease from the patient are almost if not quite unknown. Typhoid fever goes through families because all have been exposed to the disease-producing cause; or the first cases contaminate the water supply, or "seed down" the privy-vault and the house-surroundings with the disease germs.

Nurses and others in the family should eat nothing in the room where the patient is, nor anything which has been there. The food for the attendants and family should be prepared and kept as far from the sick as possible. Thorough boiling will kill all disease germs; so, while the fever is in the house, it is safer to boil all water and milk just before it is used.

*See "Disinfectants" on last page of Diphtheria circular.

DISINFECTANTS.

SOLUTION A.—For excreta, privy vault, woodwork and other surfaces.

SOLUTION B.—For excreta, privy vaults.

SOLUTION C.—For clothing, the hands, excreta, vaults, furniture and woodwork.

SOLUTION D.—For the person, the hands.

SOLUTION E.—For clothing, the hands, the person, excreta.

BOILING.—For clothing.—SULPHUR FUMIGATION.—For use only where liquid disinfectants cannot be used or to supplement other methods.

SOLUTION A.

Chloride of Lime,	6 ounces.
Water,	1 gallon.

Mix. Cost about three cents, or seventy-five cents a barrel. (Decolorizes and destroys fabrics.)

SOLUTION B. *"Purple Solution."*

Corrosive Sublimate,	2 drachms.
Permanganate of Potash,	2 drachms.
Water,	1 gallon.

Mix and dissolve. Label, *Poison!* Cost, two or three cents a gallon, when the chemicals are bought by the pound. (Stains fabrics, etc.)

The permanganate of potassium in this solution is used to give it color as a precaution against mistakes. It also, in this quantity, increases the deodorizing qualities of the solution. This is approximately a 1:500 solution of the sublimate; therefore, mixed with an equal quantity of water or liquids to be disinfected, it gives us a 1:1000 mixture. One ounce of this solution contains very nearly one grain of the corrosive sublimate.

SOLUTION C. *"Blue Solution."*

Corrosive Sublimate,	4 ounces.
Sulphate of Copper,	1 pound.
Water,	1 gallon.

Mix and dissolve. Label, *Poison!*

This is sixteen times stronger than solution B, and is intended as a standard solution from which, by dilution with water, a solution of the proper strength for use may be made. To make from it a solution of the proportion of

1:500, add 8 ozs. to 1 gallon of water.
1:1000, add 4 ozs. to 1 gallon of water.
1:2000, add 2 ozs. to 1 gallon of water.

SOLUTION D.

Labarraque's Solution,	1 pint.
Water,	1 gallon.

Mix. Cost about twenty-five cents.

SOLUTION E.

Carbolic Acid, (90 per cent.)	7 ounces.
Water,	1 gallon.

Mix. This is approximately a five per cent. solution, or in the proportion of 1:21.

Sulphur Fumigation. To use this effectively three pounds of sulphur should be burned in a room ten feet square. Every opening into the room, flues, doors, windows cracks and crevices, must be closed, except the door by which the disinfector is to escape. The sulphur is to be burned in an iron kettle or other vessel set in a tub containing a little water to guard against fire. Ignite the sulphur with a few live coals or with a little alcohol or kerosene and a match. Leave the room quickly, for the fumes are highly poisonous when breathed, and close the door tightly. Let the room remain closed twenty-four hours or more. Then air thoroughly for several days.

Boiling for at least half an hour is a sure way to destroy infection. Immersion in Solution C (1:2000) or in Solution E, one-half strength, will lessen the danger from infected clothing until it can be boiled.

THE

SANITARY INSPECTOR.

VOL. 2, NO. 3. SEPTEMBER, 1888. 25 CENTS A YEAR.

Sanitary Notes.

We have some spare copies of all of the back numbers of the *Sanitary Inspector*, and would probably be able to supply any subscriber with missing numbers, who wishes to complete his file. This we shall be glad to do upon request.

In using carbolic acid as a domestic disinfectant, it should be remembered that it is one of the most dangerous of poisons, and precautions should always be taken when it is around to guard against the accidental swallowing of it.

Chantemesse and Widal report the discovery of a bacillus in dysenteric stools, which they think they are justified in regarding as the specific cause of dysentery. This bacterium thrives in sterilized water from the Seine. Pure cultures, fed to guinea pigs, cause intestinal inflammation and necrosis. These observations are interesting, but of course judgment must be suspended, until other investigators have been on their track.

A Spanish magistrate, shocked and exasperated by repeated food adulteration, has issued a proclamation, aflame with righteous wrath, that "all wines, groceries and provisions, which, upon analysis, are proved to be injurious to health, will be confiscated forthwith and distributed to the different charitable institutions."

If the people down in Florida, who have been firing guns and wasting powder, would spend their money for disinfectants and in movements for general cleanliness, it would be a more sensible way of seeking safety.

Dr. Holt, formerly President of the Louisiana State Board of Health, gives them some good advice, which is applicable to outbreaks of nearly all other kinds of infectious diseases:

"In the first place, to tell the whole truth though the heavens fall, and to do it promptly; in the second place, to act in regard to sus-

picious cases as if real, using all precautionary measures to prevent others of more positive kind; immediately to isolate the premises of the case in question, preventing absolutely all coming and going, except as authorized; and prohibiting general attendance at such funerals."

There is a report, not very well vouched for, that an entire family of five persons living in a small Bohemian village were lately seized with hydrophobia. As the story goes they had eaten a goose which had been killed by a mad dog.

At the first annual meeting of the Hungarian Health Association, lately held, Dr. Fodor referred to the unhealthy life conditions of the inhabitants of Hungary, and alluded to the fact that the death rate from consumption in Buda Pesth and Vienna is about 700 to the 100,000 inhabitants, while in London it is only from 200 to 210.

At the late meeting of the German Congress for Internal Medicine, Dr. Finkler, of Bonn, reports a small epidemic of pneumonia, which extended to only five persons, among whom it was doubtless communicated by contagion. He considers it a peculiar kind of croupous pneumonia. A streptococcus was present in the lungs, which was neither the microbe of Friedländer nor that of Fraenkel.

In the House of Representatives, Barnes, of Georgia, has introduced a bill offering $100,000 to the discoverer of the true cause of yellow fever. He who does this will merit a reward as great as this at least; but is this the best way to go to work? If the government would equip amply a biological laboratory and set some of our best men to work in it, we should have the very best chances for finding Yellow Jack's erratic microbe, and in addition to this of solving many other questions which would be of the greatest worth to practical sanitarians and the people at large.

The Haverhill, Mass., Board of Health says: "Among the wretched examples of house drainage recently found—and this in a building erected within two or three years—was one in which the waste pipes in the kitchen sinks were connected with a large and deep cesspool in the cellar into which the drainage from four families emptied;" and the funniest incident in this arrangement for a tragedy

was that the trap was placed on the waste pipe under each sink to prevent foul air from the cess-pool from entering the building. Almost any kind of expletives would be in order to express our sentiments regarding the wretch of a builder of such a death trap, but we will be charitable and entertain a supposition that he might have been as ignorant as his unsuspecting prospective victims that dangerous gases in the cellar or basement are bound to find their way freely into the rooms above, no matter how tight the floors appear to be, or whether there are any direct openings or not.

According to the *Lancet*, the Local Government Board of England, has issued a report of an outbreak of typhoid fever, which occurred at Mountain Ash, in which, between July and October of 1887, 518 cases occurred. It appears that the water works furnished an intermittent supply, that one of the mains which supplied that part of the town, in which nearly all of the cases occurred, was "very carelessly, not to say recklessly" laid, and furthermore that this pipe was carried without any special precautions immediately above, alongside of, and even through old rubble drains. "Here" as the *Lancet* remarks, "we have the old story of an intermittent water supply, suction of foul matters into water mains and the distribution, through water as a vehicle, of some of the filthiest stuff that can possibly be delivered to unsuspecting and defenceless consumers." It may be noted also that in 1885 an outbreak of a diarrhœal disease occurred there, which suddenly attacked no less than between 800 and 900 persons.

Deaths from Whooping-Cough in Austria.

According to Austrian statistics, 23,975 children died of whooping cough and its complications in the year 1883 in the Austro-Hungarian Kingdom. Similar statistics for Germany were communicated by Prof. Hagenbach at the last session of the congress for internal medicine. According to his statements 250,000 children are attacked yearly with whooping cough in Germany, and, with a mortality of 7.6 per cent., as is given by Biermer, 19,000 cases of death occur from this disease. These are shockingly high figures and it is manifestly a duty of the schools to oppose the spread of this disease as much as is possible.—*Zeitschrift fur Schulgesundheitspflege.*

Longevity in Japan.

The census of Japan shows that the population consisted of 38,507,177 persons on the first of January, 1887. Among this number

there were 1,085,001 persons between the ages of seventy and eighty; 247,055 between the ages of eighty and ninety years; 12,220 between ninety and one hundred years, and 97 persons who were more than one hundred years of age. Among this last number there were 73 women and 24 men.—*Giornale della R. Soc. Ital. D'Igiene.*

Death in the Court Plaster.

The isinglass court plaster, that is so much in vogue with the laity and diletanti medicals, is a material most plenteously pregnant for evil. It furnishes an ideal atmosphere and pabulum for bacteria, and has sent many an unfortunate to the ground. It is questionable whether it can be disinfected so as to be safe. Phlegmon, pseudo and true erysipelas are its most usual companions, its most frequent victim being the accommodating and officious person (or his friends) who carries it about his person for emergencies, and who dispenses it with a "lick and a stick."—*Dr. A. R. Jenkins, in the Annals of Surgery.*

Tuberculosis in Germany.

Among 8252 beeves, 28,178 swine, 23,557 calves, 10,776 sheep and 75 goats killed in the slaughter-houses of Chemnitz in 1887, 422 beeves, 79 swine, 2 sheep and 2 calves, were found to be tuberculous. In the same year among 11,227 oxen, 1,656 steers, 1,389 cows, 598 yearlings, 30,477 calves, 18,860 sheep, 3,968 lambs, 63,832 swine and 445 horses,—a total of 132,453 animals,—51 oxen, 45 cows, 8 steers, 3 yearlings and 1 calf, all together 108 animals, were found to be tuberculous. In Bamberg, in the same year among 4,781 beeves, 49 were tuberculous.—*Deutsche Med. Wochenschrift.*

Swimming-Baths for Girls.

A swimming-bath for girls has been established in Zurich, and swimming lessons have been introduced for boys and girls. In 1885, when the lessons were given for the first time under the supervision of two teachers, over 100 boys took part in them, all of whom learned to swim well in a short time. For the girls the circumstances were less favorable, on account of defective arrangements and the difficulty of providing qualified lady teachers. The girls taking the swimming lessons did not all learn swimming so well as the boys; but, when the necessary arrangements had been completed, the lessons became very popular, and the time is not distant when every school girl will be able to swim.—*Sanitary Record.*

First Aid.

The great worth of instruction of non-medical persons in the practical methods of rendering aid to injured, drowned, or suffocated persons was strikingly shown in the case which was mentioned in a recent number of Lancet. "A little boy, about four years old, got into a saw-mill yard, and playing about noticed a lid in the ground. This (which was a cover to a well about ten feet deep) he lifted up, and falling in, the lid or cover closed over him. The accident was not observed by anyone, but an old woman passing noticed strange noises from the well and gave the alarm, and in some little time the child was got out apparently drowned. But Sub-inspector Barrett, of the River Police, who had received regular ambulance instruction, at once brought the "Marshall Hall" method into operation, and with a successful result.

Epidemic Jaundice.

From Glasgow the medical officer of health reports a group of cases of what has been described as "epidemic jaundice." They were eleven in number, occurred in five families, and there were two deaths. A woman aged 36 was the first to have it. She died after two months' illness. Her child, aged 14 months, was taken ill the day before its mother's death and is still jaundiced. In one family six of the children have been ill. All the cases have occurred in the same small district. The investigation of the present afflicted area is not yet completed, but the drainage is for the most part "surface drainage," and the house drains and connections are very defective. The precise causation of the outbreak is not clear, but it is thought by Dr. Russell to be distinctly associated with sanitary defects and nuisances, such as stagnant sewage, choked drains, and the like.—*The Sanitary News.*

Disinfecting Books.

There has been considerable talk lately about the possibility of the diffusion of infectious diseases through the medium of the books in public libraries. In some of the English towns the books are disinfected in a disinfecting oven with heat. Some investigations have lately been made in Dresden to determine whether the germs of the infectious diseases were discoverable on the soiled books of public libraries. Various micro-organisms were found, but none of the disease-producing micro-organisms, it may be for the all-sufficient

reason that we have not yet learned to recognize them in the subjects who are suffering from most of the diseases of which there is the most danger to library books. The same experimenters say that books may be disinfected without harming them by laying them in a ten per cent. solution of carbolic acid made with ninety per cent. alcohol.

A New Way of Killing the Tubercle Bacillus.

As we note in a Dresden journal, Dr. Weigert claims that he has discovered a way of curing consumption by causing the patient to breathe dry hot air, and that another physician Dr. Halter of a town in Westphalia has published the results of some careful observations which he has been carrying on for some time in regard to the absence of pulmonary consumption among the workers in lime kilns who often breathe air at the temperature of 200° (392° F). We are reminded that, according to the observations of Koch, the most favorable temperature for the development of the bacillus tuberculosis is between 37° (98° F) and 38° (100° F) that at a temperature a little over 38° (100° F) its growth is slow, and that at a temperature above 41° (104° F) it is destroyed.

Severe from Milder forms of Throat Disease.

Dr. Longhead, of Ravenna, Ohio, speaking of the possibility of contracting true diphtheria from cases of what appears to be mild sore throat says: "A case of this kind occurred of which I have personal knowledge. One of Mrs. A's children had a slight sore throat, but not sufficient to call a physician. A few days later Mrs. A visited her sister, four miles away. When she returned home at night she found her two other children sick with diphtheria, and four or five days later one of her sister's children was taken with true diphtheria. In this case there was no other means of exposure, and Mrs. A undoubtedly carried the contagion in her clothes."

Protective Power of Vaccination.

Comparison of the results of exposure in hospital, to the infection of typhus fever on the one hand, and of small-pox on the other, are of especial interest in this connection. In the London Fever Hospital there were, during the ten years 1861–70—the latest period during which typhus fever was received into that institution—no less than 179 attacks, and 42 deaths from typhus amongst the nurses and staff of the hospital; whereas, according to the recent report of the Vac-

cination Committee of the Epidemiological Society, out of a total of 734 nurses and attendants in the three small-pox hospitals of the Metropolitan Asylums Board, whence complete information was procurable, not a single re-vaccinated person took small-pox; of the remainder, 645 were re-vaccinated before entering on their duties; and 10 were, for one and another reason, not re-vaccinated. Every one of the latter contracted small-pox, whereas not one of the 645 re-vaccinated persons suffered from the disease.—*Dr. R. Thorne Thorne.*

A Respectable Showing.

If the question be asked, where is the proof that our preventive measures—our sanitation, vaccination and isolation—have had the results we speak of, the answer is at hand. It is given by the Registrar-General in the language of figures. He points out that, according to the newest English life-table, the children born in England in any one year have now divided among them 'nearly two million years of life'—more than would have been the case thirty-five years ago: In England and Wales the annual mortality per million of population per annum has been as follows: 1861–65, 22,595; 1866–70, 22,436; 1871–75, 21,975; 1876–80, 20,817; 1881–85, 19,310. Comparing the first and the last, the difference is 3285 per million, and taking the population at 30,000,000, the total annual saving is about 100,000 lives. And if for every death there are twenty cases of sickness, then we have two million less cases of sickness in the first period. You can count the cost of each case of sickness, of lost work, of doctors' bills, and so on, and also the monetary value of each of the 100,000 lives saved. And you can put all this as an income against the interest on the money spent in sanitary improvements, in the water works, sewerage works, vaccination grants, officials' salaries, etc., and even on this lowest ground—on this merely commercial basis—we find that cleanliness is next to godliness itself."—*John C. M'Vail, M. D.*

Diphtheria from a Fowl.

Dr. Hoadley Gabb reports the following case: A fowl with diphtheria was brought to the house of a veterinary surgeon on April 24th, and died on the 29th. The feeding and nursing of the bird devolved upon a lad, aged fourteen, who was assisted by his brother, aged five. On the evening of May 11th, the writer was called to see the little boy of five, who had been poorly for a day or two. He had enlarged,

cervical glands on the left side which had come on rapidly. He was a delicate little fellow, with fair skin and anæmic aspect. The temperature was 103° F.; pulse, between 120 and 130. The fauces were more or less covered with diphtheritic membrane, the left tonsil especially. On the day after this case was first seen, the boy who fed the fowls was very feverish, and had similar patches over his fauces, but not to the same extent as his brother. A sister, aged nine, had also a similar formation on the fauces. On the 18th, the mother, who had nursed them, was attacked.—*Medical Record.*

A Greater Scourge than Cholera.

We shudder at the ravages of cholera, but let us come nearer home. Typhoid fever slays its hundreds where cholera slays its tens. Every death from typhoid fever is unnecessary. If the soil were not contaminated, none would occur. Yet there are 1,000 deaths from this disease in Michigan each year; and, for every one who dies ten persons are sick, and not a case is justifiable. Typhoid fever comes to those in the prime of life. Each patient is sick on the average about four weeks, and there are ten thousand sick during the year. This means not only a great loss of wages but a nurse is required for each person sick, so that twenty thousand people gave up their entire time to this disease four weeks out of each year. You may keep your premises clean, but only a little fence separates you from your neighbor, and he may be careless. If that neighbor should knock you on the head in a dark night, he would be sent to prison; but he may contaminate your well, and rob you of your life and your family, and you do nothing The time will come when it will be a criminal offense for any man, through carelessness, to give his neighbor a communicable disease.—*Prof. Vaughan.*

Summer Outings for School Children.

At the International Congress, which was held in Zurich in August, for the discussion of questions relation to the hygiene of childhood, holidays at the seaside or in the mountains for sick school children held a prominent place. One of the doctors who read a paper showed that the good effect of the few weeks of summer outing was quite lasting, and with many children, according to the testimony of parents and teachers. for a long time after their return to their schools and their unhealthful homes, the children relished their food better, slept more soundly, and showed greater power of application to their

studies and of capacity to understand. Several physicians have sought, through exact methods of observation, to gain an idea as to whether the physical gain is real. Measurements of the height and of the chest capacity show, upon the whole, improvement. The weight increases from 2.2 to 8.8 pounds; children in the Swiss colonies gaining least, and those in the German most. The increase in weight is dependent very much upon food, weather and other circumstances. In 5 or 6 per cent of the children there is no gain in bodily weight. Prof. Wyss, the speaker, has under way a series of microscopical observations upon the comparative richness of the blood in red blood-corpuscles, in school children before and for some time after the outing. With two-thirds of them he finds an increase of 26 per cent in the number of the red blood corpuscles; in the other one-third for some reason or other there is a diminution in their number.—*Schweiz. Blätter f. Gesundheit.*

Diphtheria in Lewisburg Pa., in 1880.

Dr. Geo. G. Groff, member of the State Board of Health of Pennsylvania, gives in the *Annals of Hygiene* an account of an outbreak of diphtheria, which occurred in Lewisburg in that state in 1880. The population of the town was 3,080. The first case occurred in August in a boy who had not been exposed to diphtheria, as far as could be discovered. From this case the disease spread, and on Dec. 5th there had been 399 cases and 30 deaths. After this date it continued to spread, until nearly all the children and many adults had it.

"There can be no doubt now that the disease all originated from the one case in August. By visitation and attending funerals, and from children playing together, centre after centre was set up. The contagious nature of the disease was abundantly proved during this epidemic. In almost every case where it entered a family of children, and the sick person was not promptly isolated, it passed through the whole family; but, where isolation was practised, its course was restricted, in some cases to the one person first attacked. In the college and seminary were about two hundred students, generally under twenty years of age; and yet all except one escaped the disease.

"The great mistake made here was that the contagiousness of the disease was not at once recognized and insisted upon. On the contrary, the public and sabbath schools were all kept open. Funerals were public, with the bodies exposed to the public gaze, and were in some cases even kissed by other children."

The Kiss of Death.

Thoughtlessness and the gratification of sentiment are responsible to a deplorable extent for the extension of infectious disease during epidemics. Some instructive experiences on this point are recorded by Dr. Bruce Low in his recent official report on the prevalence of diphtheria in Enfield. Not a few instances came to light in which parents, accompanied often by children, had visited at houses where diphtheria existed, for the purpose of condolence, of gossip, or of idle curiosity. And very commonly children, regarded by their parents as practically well after diphtheria, were sent to school without trouble on the part of anyone to obtain certification as to their freedom from infection. So, too, as regards what appear to have been mild cases of diphtheria, people have been content to take advice from "chemists", who in turn have given medicine for "colds", "teething", and the like, with the result that in several instances children having decided diphtheria, have mingled freely with their fellows. Again, there is a custom among the working class in Enfield, as indeed elsewhere, of assembling children of the family in the sick-room to take their last leave of a relative, dead or dying from infectious disease; and children have even been brought from other districts to take part in such formal leave-taking. In one case, a child having been attacked by diphtheria, the rest of the children were sent off to the house of a relative to be out of danger's way. But the case being likely to prove fatal, the children were roused from their sleep at midnight to return to the infected house, to bid the little sufferer a last farewell. One little child was brought in a blanket to save time. As the patient was dead on their arrival, they were each lifted up to kiss the lips of their dead brother. Whether from kissing the corpse, or from returning to the infected atmosphere of the sick-room, the other children contracted the disease, as might have been expected. In another instance, a mother kept her little girl, an only child, from school to prevent her catching diphtheria, but she permitted her to go to the house of two companions, who were known to have had throat illness, to play with them during their convalescence. She took diphtheria and died. In several cases mothers persisted, in spite of the warnings and entreaties of their medical advisers, in kissing their children's lips, and in this way appeared to have contracted diphtheria. Dr. E. F. Fussell, the health officer of East Sussex, refers to the same subject in a recent report. "About ten years ago", he says, "an adult person died of diphtheria at Catsfield. The corpse was

taken a few miles distant to a cottage at Seddlescomb. The coffin was open (as reported to me) outside of the cottage, and the body exposed to the view of the relatives. In a few days there was a severe outbreak of the same disorder amongst the inmates of the dwelling at Seddlescomb. There had been previously no case of diphtheria in that village. About six years ago a child died from "diphtheritic croup", as reported, at Warbleton. Some of the children from the National School visited the corpse. Several cases of diphtheria, some fatal, occured amongst these children soon after visiting the body of their late schoolmate. The latter incident from various circumstances, was not to me so convincing as the former, in relation to the risk of infection, which may occur to some of those who unnecessarily expose themselves to such possible dangers.—*The Sanitary Record, London.*

Tuberculosis Congress in Paris.

The following are a few of the points which were brought out at the meetings of the Tuberculosis Congress which met in Paris in the latter part of July.

M. Chauveau opened the Congress with an address in which he referred to the storm of opposition which met the publication of the investigations of the Lyons Veterinary School which pointed to the identity of animal and human tuberculosis, a fact which has been confirmed by the discoveries of Koch.

M. Nocard spoke of the danger in the use of the meat and milk from tuberculous animals. The milk of tuberculous cows is dangerous in the uncooked state whether the udder is tuberculous or not. As regards the danger from the flesh of tuberculous animals there is not so nearly a unanimity. Some experiments of his seem to show that the meat itself is not usually infective. He fed kittens with the flesh of tuberculous cows and they never became infected, but when fed with the other organs of the same animals they rapidly became tuberculous.

A lengthened discussion followed M. Nocard's paper. Baillet of Bordeaux thought that the meat of tuberculous animals played but a secondary part as the cause of human tuberculosis. In the slaughter-houses of Bordeaux, out of 22,000 head of cattle only 40 were found with tuberculosis. On the other hand M. Spellmann of Nancy said that this disease is very frequent in the stables of Hautes-Vosges, the mortality of cows from phthisis being from 30

to 40 per cent. The meat of these animals, bought at a low price and offered for sale in the neighboring towns, constitutes a permanent danger of infection.

The congress voted, with only three dissenting voices, against the use of all meats from tuberculous animals and recommending the seizure and destruction of such animals, but indemnity to the owners was also recommended.

It was the general opinion that milk is infected only when the tubercular process has invaded the udder; but in view of the difficulty of recognizing mammary tuberculosis in cows, all raw milk should be looked upon with suspicion, and that cows' milk should always be boiled before it is given to infants. With goats' milk, however, no such precaution is necessary, for a tuberculous goat is one of the rarest of curiosities.

Chantemesse and Widal communicated the results of their experiments to determine how long the bacilli of tuberculosis remain alive in river water. According to the temperature at which the water was kept the period was found to range from 50 to 70 days, but from their experiments it would seem that the bacilli loose their virulence.

The congress spoke with disapprobation of the practice to which some patients resort,—that of drinking blood at the slaughter-houses for its supposed curative effects. If they will continue the practice they should drink the blood of sheep and goats, animals which rarely have tuberculosis. The meat from these animals should be used when the resort is had to the raw meat cure.

M. Nocard referred to the frequent prevalence of tuberculosis among poultry which makes the eating of internal organs dangerous. The most dangerous part is the enlarged liver (pate de foie gras) which in some cases is almost a pure culture of tubercle bacilli.

M. Legroux showed the ill effects of bringing up children with the bottle. He proposed that the congress should intervene on the behalf of ignorant populations; that all mothers should be instructed as to the dangers that they subject their infants to in giving them cows' milk unboiled.

M. Landouzy has discovered a special tendency to tuberculosis in persons who have had the small-pox. He insists therefore on the necessity of making vaccination compulsory, as small-pox patients are not only likely to spread small-pox but later on they may disseminate tuberculosis.

THE

SANITARY INSPECTOR.

VOL. 2, NO. 4. OCTOBER, 1888. 25 CENTS A YEAR.

Sanitary Notes.

When applications are made through local boards of health for analyses of samples of water, the applicants should bear in mind that they are to pay the express charges.

Typhoid fever was the cause of death, recently, of one of the members of the last Legislature, Mr. Benj. Alexander, of Linneus. Another member-elect of the same Legislature died of the same disease before the session of 1886-7.

As compared with the preceding months of this year, there has been a marked increase in the reported cases of typhoid fever during the last three or four weeks—the usual autumnal augmentation mostly due to causes which a little forethought would have removed.

Nothing in medicine is more definitely settled than the fact that typhoid fever comes mostly in drinking water which is polluted with fecal matter, or in air which is contaminated with the exhalations from stored-up excrement. It should be clearly understood that a well drains the surrounding soil, and if the soil within a considerable distance around the well receives privy or sink-drain soakage, the drinkers of the water will have the privilege of drinking what they would not care to drink if they were aware of the truth.

It is well known that water which is clear, sparkling and odorless, may, nevertheless be badly polluted. In judging whether a given well is probably polluted or liable to pollution an intelligent consideration of its surroundings should be brought to the aid of the tasting and smelling test.

Some of our local boards of health in towns where public water supplies of undoubted purity have been introduced, report a great falling off in the prevalence of typhoid fever since the introduction of the supply, while in the outskirts where the public supply does not reach and wells are used, there is a much greater prevalence of this disease.

In Brunswick there has lately been a small outbreak of diphtheria, starting in a two-story school-house which had a two-story privy built against one of its sides. The entrance to the privy for the lower room was from the outside; that for the upper room was directly from the school-room. This arrangement was pointed out in the report of the inspections of school-houses which was made by this board. It has now been removed. Some other towns are waiting for their death-traps to be sprung before they are abolished.

As a general thing our people do not change their light, warm-weather underwear early enough. The idea is prevalent to some extent that a preliminary course of hardening is a good thing to prepare one for the settled cold weather. This is a wrong idea and a dangerous one for many. The truth is that the changeable autumn weather is more trying than the steady cold winter weather; and the more prudent, as well as the most comfortable way, is to make the autumn change as soon as the need of it is felt.

Every morning, when the German housewife receives her quart of milk, she immediately places it over the fire and brings it to a brisk boil. Boiled milk is not relished by many who are not accustomed to it; but most people come to like it decidedly after they have used it a short time. In view of the fact that milk may be the medium for the transmission of several diseases, we should do well to adopt the foreign custom of sterilizing it.

Dr. Paul Gibier, of Paris, who is commissioned by the French government to study the cause, development, spread and prevention of yellow fever has lately gone to Jacksonville, Fla., and has begun his work. He came from Havana, where he has lately been making investigations. Dr. G. M. Sternberg, our eminent bacteriologist, has been sent by our government to the same yellow fever fields, where it is hoped he may not be recalled until he has had time to investigate the disease more satisfactorily than he was permitted to do on his recent foriegn visits. The encouragement which science is receiving by the sending of these two experts to Florida is of a much more sensible kind than the wasting of the public money by offering $100,000 prizes for sure cures.

At the late meeting of the British Medical Association, Dr. Walley stated that, shortly after he came to Edinburgh, in 1871 he lost a child, as he believed, from drinking the milk of a cow suffering from tuberculosis; and one of the officers of the privy council lost a child under similar circumstances. Dr. Walley is the eminent Scottish veterinarian.

There is considerable talk just now against writing paper ruled with blue lines, as the opinion of some who have investigated the effect of such linings upon the eyesight is that it is injurious to the eye; and the school commissioners of Mayence have ordered that all school writing paper shall be ruled in black.

The outbreak of diphtheria at the State Insane Hospital is apparently nearly or quite at an end. There have been no cases now on the female side of the institution for forty days, and seventeen days ago the last case which was very mild, was found on the male side.

The Hamburg Swimming Association has every year an examination swimming match for those boys of the common schools, who during the year have received instruction in swimming at the cost of the association. The swimming exercise is considered a heathful and useful sort of gymnastics.

Many of the Italian cities have suffered severly from the prevalence of small-pox, and now, as a means of preventing the frequent outbreaks of this disease, they are taking a good step in providing for the general re-vaccination of school children.

Grencher has been experimenting with disinfectants for destroying the bacillus tuberculosis. He tried, for this purpose, solutions of carbolic acid 1 : 20, caustic potash 1 : 20, sulphate of copper 1 : 20, chloride of zinc 1 : 20, corrosive sublimate 1 : 100. Among these he found only the corrosive sublimate efficient. Besides these solutions he experimented with boiling water which he found to be a trustworthy agent for destroying the bacillus.

An outbreak of diphtheria in one of the Minnesota towns has lately been reported to the Secretary of the State Board of that State, and is instructive in some particulars. A certain physician had recently

come home on a visit from a hospital, where he had been serving as an "interne," and where cases of diphtheria had prevailed shortly before. He arrived April 14th, and on the 16th of that month, with his daughter, took dinner with a Mr. Sperry and family. April 18th, the eight-year-old boy of Mr. Sperry and the doctor's daughter were attacked with diphtheria. The doctor's daughter died with the disease, and all of the ten children of Mr. S. and both of their parents successively contracted the disease. Only one child died in the Sperry family.

A movement is on foot in Switzerland in one of the societies which has the good of the people at heart, to lead them back from coffee, chicory, potatoes and "schnapps," to a greater use of their good, old, national diet, milk and cheese. The lack of real nutrition in the prevailing food supply is pointed out, and the dangers of engulfing the little republic by the seductions of the palate.

The Hungarian minister of education shows an intelligent appreciation of the worth of sanitary knowledge and of obedience to the laws of hygiene in the following instruction, which he has lately issued to his school inspectors. "You are requested to instruct and, if necessary, to compel the teachers to keep the school-room air sufficiently pure by frequent ventilation; make it their duty to instruct the scholars in the care of health, to call their attention at every opportunity to the harmful influence of impure air and polluted drinking water. Direct the teachers and also the pastors to teach the people to keep their rooms clean, and their wells and springs pure. Finally you are requested to keep me informed of the results of your efforts in this direction."

The Medical and Surgical Association of the Canton of Berne, Switzerland, have offered a prize of 800 frances for the best paper on that burning question: How far are the reproaches against the schools of overburdening justified from the physician's point of view? The paper must be based upon positive observation in a given locality.

We noticed last spring in the London *Lancet* when small-pox was quite prevalent in the north of England, and especially at Sheffield, that a very good arrangement had been entered into by the journeyman tailors of the Sheffield branch of the Amalgated Tailors' Society

for which the general public in the city and country in which they lived ought to feel grateful. According to the rules of this association any tailor suffering from an infectious disease receives fifteen shillings a week to abstain from work. The temptation, therefore, to conceal the presence of infectious disease is not so great. When the fact was noted, seven members of the society had already suffered from small-pox and had received the stipulated amount to keep away from work. Thus the public was saved from a great danger and the cost was defrayed out of the funds collected from the hard earnings of the Sheffield tailors.

Poultices in Eye Diseases.

Dr. Wurdemann, in a late number of the Medical Record, does well in pointing out the dangers of poultices applied to the eyes by unskilled hands. He says: "Many of the laity believe that the best treatment for ocular irritation is a large poultice, preferably one of tea leaves, applied upon the eye to 'draw out the disease.' Even some of the medical profession, possibly of little experience in eye diseases, have advised such a poultice for conjunctivitis. Eyes that have been treated in this manner are easily recognized. The effects of one of these engines of destruction have but to be seen to be remembered for a lifetime."

Electricity for the Snakes.

In British India there is an annual loss of from five thousand to ten thousand persons from the bites of venomous serpents. Lately a novel use has been made in that country of electricity for the protection of households against dangerous creeping things. Before all the doors and around the house two wires are laid which are isolated from each other and connected with an induction apparatus. As soon as the serpent attempts to crawl over the wires, his body closes the circuit and he receives a charge of electricity which either kills him or causes him to beat a hasty retreat.—*Schweiz. Blält. für. Gesundheit.*

Diminuion in the Typhoid Fever Prevalence in England.

By means of their excellent system of vital statistics the progressive results of public health work in England is very conclusively shown. Dr. R. Thorne Thorne says: "In 1869, the number of fatal attacks from typhoid and simple continued fever in England and Wales was 13,967, and in the years that immediately followed but little diminu-

tion is to be observed in their fatality. During the five years, 1876–1880, the average annual number of deaths had fallen to 8,657, and in the period 1881-'85—and this notwithstanding a steady increase in population—it had fallen to 6.671. Or, comparing the annual death-rate per thousand living in 1869 and in 1885, I find they were 0.39 and 0.17 respectively in the case of typhoid fever, whilst for simple continued fever they were 0.24 and 0.02 respectively—a sufficiently marked decrease in both cases."

Contagious Eye Disease.

A contagious inflammation of the eyes (purulent ophthalmia) lately broke out in a seminary in Dramburg, Germany, and 55 of the pupils were affected. Ill advisedly the school was closed, and the pupils were sent to their various country or village homes, where skillful medical attendance would be hard to get, and where the lack of intelligent precautions would allow the disease to become transmitted to the other members of the families.

In all cases of purulent inflammation of the eye, or when there is "running", the owner of the sore eyes should be restricted to the use of his own special towels and washbowls, thereby to guard against the danger of infection and a household epidemic of "sore eyes", such as too often occurs.

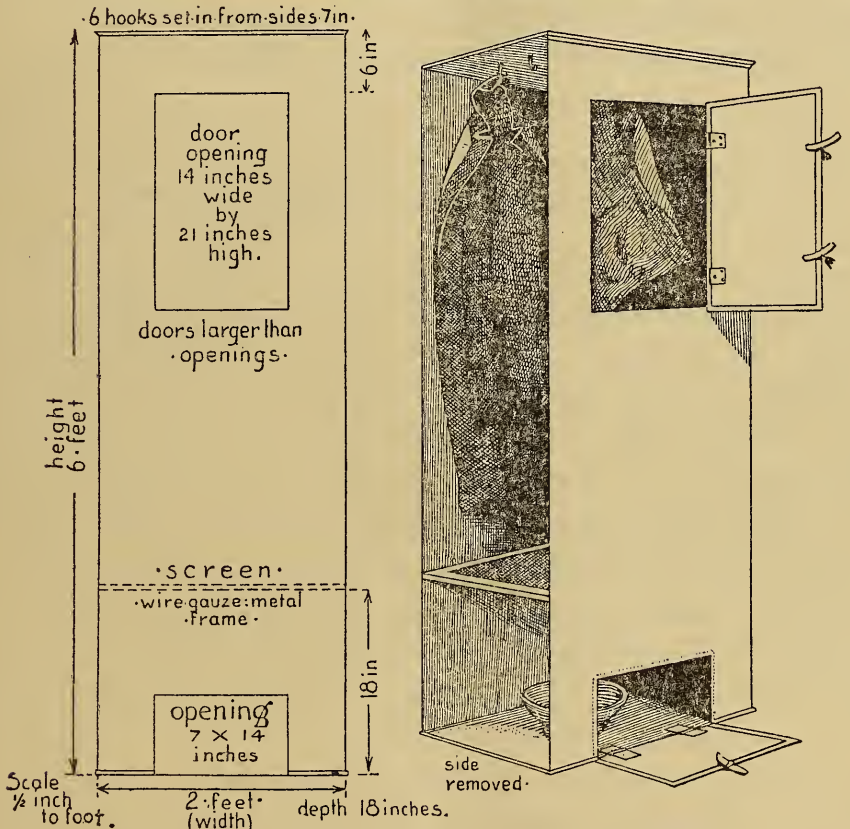
An Extemporized Disinfector.

At the Insane Hospital, an apparatus for disinfecting with steam under slight pressure was got up some time ago at short notice. Near the laundry and engine house a matched pine plank closet was made, large enough to receive several bed mattresses standing on end. The steam in the laundry was tapped and run into the bottom of the closet through an inch pipe. The door was hung with strong strap hinges and closed tightly with three or four large thumb screws. Bars extend across the upper part of the closet which are plentifully beset with hooks for suspending clothing. A test with the thermometer was made one cold evening, by hanging it on the inside of a pane of glass which was tacked and puttied over a perpendicular opening in the wall. Steam which in the engine room was at 35 pounds pressure was turned on and in five minutes the mercury ran up to 215 F, and remained there. After the steam was shut off the mercury stood at the same point three minutes, then fell slowly. Three degrees above boiling point showed that, as crude as the apparatus is, it is efficient, at least when the external temperature is no colder.

It Was Only Imagination.

The effects of the imagination in sanitary matters were well illustrated a day or two ago in connection with a little experience of the health department in this city. A fruit dealer on South Water Street made a vigorous complaint that one of his business neighbors on the same street was causing him great annoyance and loss of trade by exposing cakes of offensive cheese on the sidewalk in front of his store and so near the complainant's fruit that it had actually been contaminated by the disagreeable odor. Dr. DeWolf sent an officer to the scene at once with instructions to confiscate the mal-odorous cheese. The officer returned in a few moments with some blocks of wood neatly wrapped to resemble cakes of cheese—intended for an advertisement only, wood being used instead of cheese itself, as boys were likely to steal them.—*Sanitary News.*

Disinfecting Physicians' Clothing.



The *Brooklyn Medical Journal* for October has a paper by Dr. Dickinson, of the Long Island College Hospital, which describes a galvanized iron closet for the disinfection of physicians' clothing, and through the courtesy of that journal, we are enabled to re-produce the cut which illustrates the paper.

The closet should be six feet high, two feet wide, and eighteen inches deep. A shorter closet brings the clothing down on the screen. The screen is made of ordinary mosquito wire gauze. The openings are kept as small as they conveniently may be. Should the upper door not close tightly, a piece of cloth larger than the door can be placed on its inner side and lapped back over its edges, although this has not been found at all necessary in practice.

The disinfectant used is sulphur, half a pound of which is thrown into the bowl, dashed with alcohol and lighted with a match. More than a small quantity of alcohol should not be used for fear of the flame reaching up high—although danger of igniting the clothes is obivated by the screen.

Four hour's exposure of the clothing in this closet is probably sufficient, but the suit may well be hung up in the evening and left over night. It may be worn again in the morning without needing to be aired; in such case the wearer scents sulphur for some hours, but no one else is conscious of the odor.

The cost of this closet is about thirteen dollars.

Temporary Retreats for Neglected Children.

Only he who has had a chance to see something of the social and home life of some of the lower classes of industrial workers, particularly in the old world, can have an idea of how many children there are, who have never learned what a home is in the true sense of the word. Though death has not removed the parents, the children suffer a semi-orphanage through the stern necessity which the struggle for the daily bread requires. Not only the father works away, but the mother toils in the fields, shop, or factory; and the children returning from school find the house deserted, locked against them sometimes, and, cold, hungry and lonesome, they roam the streets in search of questionable companionship, or trying to keep up a comfortable degree of bodily warmth by physical exercise. To guard these waifs against the dangers, physical and moral, which beset them, an association of the good people in Dresden, Germany, have had in operation for two years past a retreat, where these children are cared for from four to seven o'clock daily, except Sundays, and are entertained with mental and industrial training, gardening, playing in the open air or in rooms, reading, singing, etc.

Influence of Confined Air in Causing Consumption.

Although it is now generally admitted that consumption, or pulmonary tuberculosis, is a parasitical disease, we should not lose sight of those auxiliary influences which increase the receptivity of the body for the infection, and when infection has already occurred, make the patient a readier victim for the invading bacilli. One of the most potent of these accessory causes is undoubtedly close, confined and rebreathed air; and those physicians who have gained any special reputation for success in the treatment of this class of diseases, have had a very clear appreciation of this fact, and have persistently urged their patients to live in the open air. A while ago Dr. Brown-Sequard read a paper before the Academy of Sciences, confirmatory of the bad effects of confined air and of the good effects of fresh air. He narrates that in 1869–70 he inoculated subcutaneously a hundred guinea-pigs with tuberculous virus, without the loss of a single animal, but the cages were kept continually hanging in the open air of the garden. Another series were inoculated in the same way, but they were condemned to have their cages remain in the close air of the laboratory. Nearly all of these died tuberculous. He cites also the histories of many men who had been in the cavernous stage of consumption, but who recovered completely, after living and sleeping two years continually in the open air.

The Action of Disinfectants upon Fabrics.

It is generally known that certain disinfecting agents are harmful to the colors and the textile strength of fabrics, but, as far as I know, there is nothing in sanitary literature which, in a convenient way, shows to boards of health and others just the degree of destructiveness which characterizes some of the common disinfectants and the comparative harmlessness of others to fabrics. With a view of determining and showing this, nineteen samples of goods of various kinds, cotton, woolen and silk, were subjected to treatment with the standard disinfecting solutions which are given in the circulars of the State Board.

Solution A.

Pieces of all these goods were soaked in the cold solution one hour. With the exception of a ladies' red dress flannel, the colors of all the colored goods were seriously injured. Unbleached cotton cloth was made to approximate the bleached in whiteness. The woolen goods already showed a diminution in textile strength.

Soaked 24 hours in the cold solution, nothing remained of the silk and woolen goods but fragments, and the detritues in the bottom of the beaker. The cotton goods were almost entirely decolorized except one light blue American print, and their textile strength was much impared.

Other samples of all the goods boiled in the solution twenty minutes, entirely disappeared except a flocculent or pultaceous sediment.

Solution B.

Macerated in the cold solution of one-half strength (diluted with an equal quantity of water), all the goods were ruinously stained. Boiled for twenty minutes they were practically all one color: a dirty brown.

Solution C.

This was diluted by adding four ounces of the solution to one gallon of water.

Soaked in the cold, diluted solution one hour all the samples looked as well as others which had had the same treatment with Kennebec River water. Macerated twenty-four hours, all the samples of the ladies' goods (cashmere, serge, suiting and ginghams) suffered no injury. One piece of print out of four samples was slightly changed in color.

Macerated one hour in the cold solution and then boiled twenty minutes, the samples collectively showed considerably less change in their colors than the samples which received the same treatment with Kennebec River water.

Solution E.

The samples collectively, when subjected to cold maceration, or soaked in the cold solution and afterwards boiled in it for twenty minutes, suffered but little change of color. Upon the whole the results were better than when simlarly treated with simple water.

A solution of corrosive sublimate alone in water, of the strength of 1 :1000, gave practically the same results as Solution C. Solution C and also the simple solution of sublimate seemed to act as mordants in preventing the running of the colors when many samples were boiled together.

Trichinosis in Saxony.

Dr. Riedel* gives a history of an outbreak of trichinosis which occurred in the beginning of the present year at Obercunewalde in

*Centralblatt fur allg Gesundheitspflege.

Saxony, in which 235 persons were affected, and 34 deaths had occurred at the time of making the report. It appears that the examination of pork for trichinæ is not obligatory in that town; but that, since the occurrence of an epidemic in 1885, which affected some sixty persons, the butchers had been in the habit of having a microscopic examination of each animal slaughtered made by their local apothecary or other person. One Angermann, who kept a slaughter house, had not omitted to have an inspection made of the animals which he killed, until Dec. 20th, when he slaughtered a pig, which he made up into sausages and slightly smoked them for the holidays, and in the goodness of his heart he made a present of a small quantity of his wares to his many friends. A part of the sausages was thus disposed of and a part went into the markets in his surrounding towns.

The severity of the symptoms were strikingly in proportion to the amount of the trichinous pig which was eaten. Several persons, who were mindful of the trichina epidemic of three years before, were careful to fry or otherwise cook their portion of the sausage, and thereby escaped unharmed.

The principal symptoms were as follows: In from six to ten days after eating the trichinous sausage, loss of appetite, nausea, abdominal pains and diarrhœa set in. Pain in the limbs and painfulness of the muscles, with difficulty in the movement of them, œdema of the legs, fever and bronchial and pleuritic symptoms followed. Most of the fatal cases terminated in the second and third weeks of illness. In many of the cases convalescence was very tardy, general debility, muscular weekness and paralysis, and, in some cases, obstinate and prolonged diarrhœa confined the patient to the bed for many weeks.

In the various outbreaks which have occurred in Saxony since 1860 until 1886, there had been 3,247 cases of trichinosis with 52 deaths,—that is, a mortality of 1.6 per cent. The Obercunewalde epidemic presented a mortality of 14.5 per cent., the reason of which is presumed to have been the abundance of trichinæ which infested the pig of December 20th.

Rules for the Care of Milk.

For the use of milk dealers and for the protection of the public, Dr. E. H. Bartley, late chief chemist of the Brooklyn Health Department, gives the following rules for the care of milk.

1. The milk of diseased cows should not be sent to market. Any condition that produces a fever in a milch cow should be regarded as rendering the milk bad.

2. The milk of cows fed upon distillery swill, or of those fed entirely or largely upon fermenting brewer's grains, should not be sold for infant's food.

3. Cows should not be allowed to drink stagnant pond or ditch water.

4. Milk from cows that are over heated or worried, at the time of milking, should not be sent to market.

5. If the udders are dirty, they should be washed clean before milking.

6. The milk should be cooled outside of the stable, and the cans should be covered during the process, to exclude air and dust. Milk should be kept at a temperature below 60° F., but ice should never be put into it.

7. Warm milk should never be received from the dealer, nor should the can be left out on the sidewalk in the summer.

8. Milk should always be kept covered, and should never be kept in an ice-box with meats or vegetables possessing an odor.

9. Ice-boxes, stores and wagons, in which milk is kept, should be kept clean and sweet by occasional washing with chloride of lime followed by clean water or soap and water.

10. When possible, only full cans should be received. A small full can is better than a large one partly filled, as the agitation and churning of the milk is less in a full can. Avoid the unnecessary handling of milk. The necessary agitation of shipping and delivering is an injury to it.

11. Milk that has been brought back from the morning rounds should not be mixed with other milk; it should be cooled at once, and sold as soon as possible.

12. If milk is kept over night, a small portion of it should be boiled to see if it will curdle, before it is sold.

13. Each and every dairy's milk should be tested daily.

14. It is best to make a contract with the one who delivers the milk to you, to furnish that of a given test by the lactometer, says 105 to 110, and giving at least 10 per cent. of cream.

15. Milk which contains dirt settling to the bottom of the can, blood, offensive odors or taste, should not be sold to customers.

16. *Cleanliness* in the handling of milk *is absolutely essential to its wholesomeness.—Brooklyn Med. Journal.*

THE

SANITARY INSPECTOR.

VOL. 2, NO. 5. NOVEMBER, 1888. 25 CENTS A YEAR.

Sanitary Notes.

During the year 1887, small-pox was the cause of 3,357 deaths in Rio de Janeiro.

There seems to be some evidence collecting that Bright's disease is sometimes caused by the continued breathing of sewer air. Cases of this kind were not long ago reported in the British Medical Journal.

Florence Nightingale, whose admirable sanitary management in the Crimean campaign saved more lives than Russian missiles destroyed, is now, in her sixty-ninth year, a confirmed invalid in St. Thomas's Hospital, London. Her hospital work during that memorable seige, affected her spine, and she has never recovered from the injury.

Dr. Gamaleia has left Odessa for Paris, in order to explain his system of vaccination against Asiatic cholera to the Academie des Sciences. In March he proposes to go to India, to test practically the efficacy of his method on cholera patients.

A steam disinfector was put in operation on Monte di Pieta, in Paris, last year for the disinfection of mattresses, feather beds, and other objects which had been in use by patients who have suffered from infectious or lingering diseases, and during the first year over 28,000 objects were disinfected.—*Giornale della Reale Societa Ital. D'Igiene.*

Last May the Prefect of Police of Paris sent a letter to each of the suburban communes to the effect that a Geneste-Herscher steam disinfecting apparatus would be set up for their use without delay, and the people are invited to bring their infected clothing, bedding, carpets, etc., for gratuitous disinfection.—*La Salute Publica.*

Meetings are being held in almost every city and town of any size in Germany for the purpose of arranging for the establishment of disinfection institutions like those in operation in Berlin and Dresden. *Rundschau* (Prag) recommends individual apothecaries to establish small disinfection ovens in towns where the authorities will not take action, and thinks that such could be made sources of considerable revenue.—*Sanitary News.*

A few weeks ago we read that in and around the town of Rabat, in Morocco, some 20,000 persons have lately fallen victims to small-pox, and thousands have died. When it is considered how gladly these poor creatures would avail themselves of the protection which vaccination affords, it is painful to reflect that, in our civilized communities, there are a few most outrageously ungrateful anti-vaccinationists, who vilify, instead of revere, the name of Jenner. They ought to be working in a good cause, and passing around subscription papers for the purpose of putting up a monument to his memory in every civilized town and village.

As we recorded in the last number of the SANITARY INSPECTOR, Dr. Landouzy, in the Tuberculosis Congress, stated that his observations show that persons who suffer from small-pox are much more prone in later years to consumption and other forms of tuberculous disease, than are other persons who have not been the victims of small-pox. This need not surprise us at all, for it is a clinical fact, frequently mentioned by medical and surgical authors, that local ulceration and suppuration often give rise to tuberculous deposits in the neighboring glands which, according to the present prevailing belief, may be the focus of general tuberculous infection.

Though, as far as is known to the writer, M. Landouzy did not make this application, it will be no wonder if this little bomb is thrown into the anti-vaccination camp.

According to official archives in that country, the first epidemic prevalence of diphtheria in Sweden was in 1755. From that time it appeared at different places until 1772, when it disappeared not to return until 1810, since which time it has sprung up, now in one place, now in another, in isolated cases or in epidemic outbreaks. Of late years this disease has shown a decided tendency to be more prevalent in that country, as it has in most other northern regions.

Who Took the Prize?

At the last year's meeting of the American Public Health Association Mr. Henry Lomb, of Rochester, N. Y., offered two prizes, one of $500.00 and one of $200.00 for the best and second best essays on healthful and economical cooking. Seventy competitors entered the field. One of the essays was found to be worthy of the first prize, and out of the sixty-nine others none were thought deserving of the second prize. When the envelope was opened which bore the title, "Five Food Products, Illustrated by Practical Receipts," the name, Mrs. Dr. J. J. Abel, Strasburg, Germany, was found. Mrs. Abel is the wife of a young American physician who is now taking a post-graduate course in the University in that town.

Tobacco Heart-Disease.

A year or two ago Prof. Fraentzel, of one of the principal hospitals of Berlin, published a paper in which he gave the results of his observations on a series of cases of idiopathic enlargement of the heart which he referred to the use of tobacco. The patients who had been inveterate smokers had a very rapid action of the heart and irregularity of its action, weak strokes alternating with stronger ones.

Tuberculosis Transmitted from Nurse to Children.

Dr. Gannett told of a case in the Boston Medical and Surgical Journal two years ago in which tuberculosis appeared to have been communicated from a phthisical nurse to two children who had been well until after they were entrusted to her care. The parents of the children were perfectly healthy, and the children were nursed by their mother and lived amid healthy surroundings.

Lead Poisoning.

Dr. Herald, of Newark, N. J., has, during the past six months, had fifty cases of lead poisoning in his practice, which he has traced to soda water contained in the five-cent, patent-stopper bottles. In some of the stoppers examined by him he found 42.4 per cent. of lead, and in others 83.6 per cent. The action of the carbonic acid in the water upon the lead in the stopper ultimately produces a bicarbonate of lead, which, when absorbed from the stomach, causes lead poisoning.—*Science.*

Contagion of Pneumonia.

Dr. Netter, chief of the laboratory of hygiene of the Faculty of Medicine of Paris, has recently published a paper in which he takes strong grounds in favor of the view that pneumonia is contagious. As it is probable that the sputa are, if not the sole vehicle of infection, at least the most frequent one, he would have it disinfected; and in hospital practice he would not have pneumonia cases in the same wards with cases of typhoid fever, measles, acute diseases of the air passages, nephritis or diabetes, as patients with these affections are more susceptible to the contagion of pneumonia than persons in health.—*Revue D'Hygiene.*

Vital Statistics.

Many of the people, as well as most of the officials, can see the convenience of having election statistics, and derive some satisfaction from a comparison of the hog census of one year with that of another; and yet those who attach importance to the birth and death rate, that is, the *human* birth and death rate, are greatly in the minority, and this great State is more profoundly moved by a local outbreak of hog cholera than by the prevalence of half a dozen preventable diseases among the citizens and their children; hence a somewhat tedious educational process must be gone through before the average citizen is brought to realize the importance of sanitary measures.—*Address of T. Clark Miller, M. D., Pres. Ohio State Board of Health.*

Diphtheria a House Disease.

At the fifth International Congress of Hygiene at the Hague, Emmerich showed from data which had been collected in cities of over 15,000 inhabitants, and which extended over the past eight years, that the greatest prevalence of diphtheria had occurred in those months, and in those places, where the inhabitants had been shut up in heated rooms day and night. He reminded his hearers of the necessity of not forgetting the floor when disinfecting measures are carried out in infected rooms, and he mentions an instance in Bavaria where this precaution was not taken, and though otherwise careful measures of disinfection were carried out, a second family who moved into the room were infected. No other cases were prevalent in the town.

Effects of Sanitary Plumbing.

Dr. A. R. Carter, of the health department of Baltimore, has published some interesting statistics in regard to the effects of sanitary plumbing. He says that during a period of fifty-four years, from 1830 to 1883 inclusive, there were in that city 12,197 deaths from scarlet fever, being an average of 226. In the last of those years there were 334 deaths. But the city council then passed an ordinance regulating plumbing, and in the years since, there has been a remarkable decrease in the mortality from scarlet fever. In 1884 there were 104 deaths; in 1885, 67; in 1886, 32, and in 1887, 36 making a yearly average of 60, but with a plain tendency to decrease. The yearly average of deaths from diphtheria has in the same way diminished from 469 to 234.—*Sanitary News.*

Imperial Dictation.

There has been a sensible movement among German physicians, educators, and other intelligent classes in their country to abolish the old national type in printing and substitute for it the Roman. In view of the alarming prevalence of near-sightedness in the German schools, this is a wise measure, for the Roman type, such as we and most other peoples use, is much less trying to the eyes than that old complicated form which the Teutonic nations have clung to so long. Of late years nearly all of the scientific literature of Germany has been printed in the Roman type, but we are sorry to see, in the last two volumes of the report of the Imperial Board of Health of Germany, a retrograde movement, in that they are now printed in the old fashioned type which is going, and deserves to go, out of style. This means undoubtedly that the new Emperor and Prince Bismarck abhor innovations, and this one in particular, and that the movement for saving the eyes of the German nation kicks the beam suddenly when counterpoised in the balance with the whim of the Emperor and the Chancellor.

Hints for Mothers.

A recent author of a popular work on Eyes and Spectacles,* after speaking of certain causes of eye disease among the poorer classes of children, refers to certain injurious influences to which he has noticed that the eyes of children of well to do parents are often exposed. "The little one is left many hours in the care of the nursery maid,

*Auge und Brille. Dr. Netolicska.

and she wheels it in its carriage, so lying on its back that the sun shines full in its face and eyes, or she leaves it thus while she chatters for half an hour or even an hour with other nursery maids. Many mothers are in the habit of burning a lamp all night, with no protection of the infant's eyes from the full glare of the light. Other parents so place the bed of their children that the foot is directed towards a window and even the east window, so that the little ones may be awakened by the sun, and be ready for school. This is a sure way of bringing on weakness of the eyes."

Super-Heated vs. Simple Steam.

Dr. E. Von Esmarch, Assistant in the Hygienic Institute in Berlin, has recently made some investigations to determine the comparative disinfecting power of super-heated steam not under pressure as compared with the same kind of steam not super-heated, and his results are different from what we would have expected. He found that when applied to anthrax spores, steam, as it is raised above 100 C. (the boiling point of water) gradually loses its disinfecting power until the temperature of the steam reaches 150 C. or upwards at which temperature it becomes destructive to the fabrics.

Or, estimating the disinfecting power of steam at various temperatures, freely flowing steam of 100 C. killed anthrax spores in ten minutes, at 110 C. in twenty minutes, at 123 C. in forty minutes. In a later series of experiments with a modified Henneberg disinfector, his conclusions were confirmed by finding that the apparatus in its new form in which the steam is super-heated, did not give satisfactory results. The only explanation why steam gradually, within certain limits, loses its disinfecting power as its temperature is raised, is that the super-heated steam is dry steam, and that a certain amount of moisture is necessary to soften up as it were, the envelop of the bacteria that the steam or the heat may prove destructive to the organism within.

Diphtheria at the Insane Hospital.

In our last issue we said that the outbreak of diphtheria at the Insane Hospital was apparently nearly or quite at an end. Thirty-one days passed without a case of the disease on the male side, and over two months with no cases on the female side, when the disease suddenly re-appeared on the male side (Nov. 17), and, at the time of the present writing, there have been 11 new cases. This is almost dis-

heartening and the overworked officials in the institution deserve our sympathy.

In this outbreak we have illustrated a fact which very frequently comes under observation, that is, that when the infection of diphtheria is introduced into a city, village, town, or public institution, though it may not always spread with such promptness and rapidity as is often shown in the case of some other infectious diseases when they are let alone, diphtheria shows a wonderful power of tenaciously clinging to localities into which the infection is brought, and this very often irrespective of the sanitary conditions of the places. At the Insane Hospital much good work has been done during the last few years in improving the hygienic condition of the institution, but much more needs to be done. Particularly in the two first wings, as was pointed out in the last report of the State Board of Health, the plumbing is antiquated and dangerous, and there is urgent need that changes be made immediately. In these two wings almost anyone would have been willing to wager that if diphtheria were introduced into the hospital it would do its worst work. Yet the fact has been that in the first wing on the female side, where the plumbing is outrageously bad, there has not been a case of diphtheria, and in the first wing on the male side, there have been but a very few cases. What, then, have been the causes of the prolongation of the outbreak? In the first place it is never to be forgotten that diphtheria is an infectious disease, and that the management at the Hospital has been working under disadvantages.

One of these is the over-crowded condition of the wards. A few evenings ago the writer was at the hospital late in the evening, and went through some of the wards after the patients had gone to bed. In each ward, all of the rooms were full, and in addition, cot beds were made up all through the corridors for patients that could not otherwise be disposed of. In some of these wards, from twenty to twenty-seven patients were camped down on cot beds. These cot beds in the morning have to be removed and packed away, and when during the forenoon inspection of the throats of the patients, a diphtheric throat is found, the bedding has usually been packed away, and the disinfection of many beds has to be made that they may be sure that they have reached the infected bedding.

Another circumstance which has probably contributed to the prolongation of the outbreak is the fact that it has been very difficult to learn when the patients have a slight diphtheria without making an ocular examination of the interior of their throats. and this, in many cases, has been very difficult to carry out, on account of the demented condition of the patient or his insane stubbornness.

American Public Health Association.

The Sixteenth Annual Meeting of the American Public Health Association was held in Milwaukee Nov. 20 to 23, and the meeting was considered by the members in attendance as one of the most interesting which has ever been held. Nearly all the State Boards of Health were represented by delegates, as were also the Provincial Boards of Health of Ontario and Quebec, and many of the municipal health organizations from Maine to Texas and far westward. Many important and practical questions were brought up in the papers and discussions, particularly those relating to quarantine, the garbage question, public water supply, and the relation of animal diseases to those of man. Some of the papers were illustrated by means of the stereopticon, thus making them interesting not only to the professed sanitarians, but to the average intelligent citizen of Milwaukee or other towns as well. Two of the papers, Dr. Smart's report on water pollution, and a paper by Dr. Jerome Cochran, Health Officer of Mobile, Ala., on yellow fever, were received with so much favor that the association ordered them published immediately for distribution, not waiting for their publication in the annual report of the proceedings. Other papers which were read will be referred to, and parts of them will be presented to our readers in future numbers of the *Inspector*.

Garbage Furnaces.

The question of satisfactorily disposing of garbage has been a trying one for many health officers and municipal boards of health. When no system is employed and the garbage is permitted to accumulate and putrefy it becomes a source of danger to the public health; when it is given or sold to farmers there are the accompanying dangers of swill-fed milk: when carted out of the city and buried, it sometimes pollutes wells or other sources of water supply; when, in the case of seaboard towns, it is carried out to sea and dumped, the objection often arises that much of it is thrown upon the shore again. In our tribulation in this matter, we have of late years looked more and more to the experiments which the English towns have been making of burning garbage in furnaces specially constructed for that purpose. The English furnaces however, are mostly too costly, and for other reasons not well adapted to our wants. A number of American inventors have also turned their attention to the subject, but some of them apparently with very little knowledge of what is really required to

economically and inoffensively dispose of garbage by cremation. For some years past a person by the name of Mann has had a contract with the city of Montreal to destroy the garbage by cremation, and has so disposed of it in a furnace of his own construction. A Mann furnace has also been built in Chicago. Wheeling, W. Va., has a Smith furnace: in Pittsburg a Rider furnace is in use, and one is building in the neighboring city of Alleghany. Some of these furnaces appear to have shown that they are capable of destroying the garbage economically, but some of them, at least, also appear to have shown that they are sometimes capable of being a nuisance on account of the lack of perfect combustion and the consequent malodorousness of their smoke. The manufacturers of the Engle furnace however, claim to have overcome this difficulty by a peculiarity of its construction. It is built with a fire at either end, so that the smoke and other products of the combustion of the primary fire and the garbage, to reach the shaft are obliged to pass through the flame of the secondary fire, whereby the smoke and gases are said to be destroyed. The first Engle furnace was built in Des Moines, Iowa, one is in use in Minneapolis, Minn., and a small one has been built at Cony Island for the destruction of the garbage of the summer visitors, where it is said to have worked satisfactorily. Arrangements have also been made for erecting this furnace in several other towns.

The Fleischmann System.

Hints have been abroad for a few months past that the city of Buffalo is taking an entirely new departure as regards the disposal of garbage. Until now garbage has been thought to be worse than of no value at all, and most cities have thought themselves fortunate to get rid of it with even a moderate expenditure of money. Fortunately, however, somebody has conceived the idea that garbage is valuable, and has forthwith gone to work in an inoffensive way to coin money out of it. Mr. Fleischmann, a manufacturer of yeast in the city of Buffalo, found an invention in Vienna which he has brought over to this country, and combining it with some American inventions, the company which has been formed to operate it, about two months ago, completed their first plant in Buffalo where we had the pleasure of examining the works at a recent visit to that place.

The Fleischmann system of garbage extraction consists principally of two processes. The garbage as it is hauled in is shoveled through man-holes into dryers below. There are two of these dryers, each

receiving at one charge 5000 pounds of garbage. Each dryer consists of a double-walled metallic cylinder between the walls of which steam at a pressure of about eighty pounds is admitted. In the interior of each dryer, a rake revolves, constantly stirring up the garbage. These rakes are composed of steam pipes into which steam of the same pressure is admitted, but the steam is not admitted into the chamber which contains the garbage. The steam which arises by the drying of the garbage is drawn out of the dryer by means of a fan so that a partial vacuum is constantly maintained in the dryer, and this steam is carried into the lower part of a chamber, where, as it rises, it meets with a series of sprays or sheets of water which fall from over-lapping shelves. In this way the steam which comes from the dryer is condensed and flows away as an inoffensive rill, having no more odor than the condensed water of an ordinary steam radiator. In this process of drying, sixty per cent. of the weight of the garbage is removed.

The second stage of the operation consists in putting the dried garbage into an apparatus called an extractor where the grease and oil which it contains is thoroughly removed by benzine used in an automatic way, so that it is used over and over again without loss. The present plant in Buffalo disposes of about 30,000 pounds of garbage daily. From this about 1800 pounds of grease is recovered and the remainder of the dried and pulverated garbage, amounting to a daily average of about 12,000 pounds, is quite rich in ammonia, phosphates, and the other constituents which are valuable in fertilizers, and it is readily sold to the manufacturers of fertilizers. This dried product is screened, and what is removed is sorted out and nearly all of it finds a market. The old rubber brings a good price, the rags are sold, the bones are valuable as a source of bone-meal, the waste tin, brass and other fragments of metal all readily sell, and only a small residum, such as corn cobs, pieces of crockery ware, etc., are used as filling. According to the showing of those who are pecuniarily interested, and of the health authorities at Buffalo, a business of this kind pays a good percentage on investment, and an examination of the works must convince any person that a sanitary triumph has been achieved. Upon the first introduction of the garbage to this treatment it is subjected to a temperature which of course immediately disinfects it, if any of it should be infectious, and from none of the processes through which the garbage is put is there the least odor which is suggestive of danger; and though much benzine

is used in the second stage of the treatment no smell of it whatever is detected anywhere in the establishment during its use.

It looks as though Mr. Fleischmann and his associates have solved the garbage question. Though it has been only about two months since this first extractor was erected in Buffalo the company have already made contracts and are either now building or preparing to put up similar works in Chicago, Milwaukee, Rochester, New Orleans, Pullman, Baltimore, St. Louis, Pittsburgh, and Huston and Galveston, Texas.

Garbage Disposal in Milwaukee.

Sometime ago Mr. Forestall of Milwaukee, made a contract with the city to dispose of the garbage for three years. Until recently he has been doing this by destroying it in a furnace of his own construction in which it is burned by being constantly shoveled by workmen after it has undergone a preliminary partial drying in another part of the apparatus. As the combustion was not perfect in this furnace, there have been some complaints of it as a nuisance. An Engle furnace has lately been built beside it, and, though the smoke flue was not yet topped out at the time of the meeting of the American Public Health Asosciation, the furnace was hastily gotten ready for the garbage and fired up to show the members the method of working it. Although Mr. Forestall has these two garbage furnaces on his hands, he has contracted to tear them down and supplant them with the Fleischmann System in the hopes of thereby getting something out of what he has hitherto been burning as a wholly worthless waste.

Small-Pox in Ante-Jenner Times.

From personal observation we of this age have but little idea from what a scourge Jenner's discovery of vaccination delivered us, or has made it possible for us to be delivered, if we choose. In the recently published reminiscences of Count Cheberny in the times of Louis XV and Louis XVI,* the quaint old writer describes the mental trepidation which he and his wife, the Countess, were thrown into at frequent intervals by the presence of small-pox and rumors of small-pox in Paris, and tells us how their constant solicitude was often intensified by the death of friends or near neighbors from that disease. The Countess had so great a dread of the disease that life was shorn of half its pleasures. She feared to mingle with society, to go to

*Rosenthal's Gesundheitspflege.

church, or to places of amusement, or to travel by public conveyance.

At this time, before the discovery of vaccination, Lady Mary Wortley Montagu had introduced from the East the practice of inoculation directly from the small-pox pustule, and a Doctor Hosty had set up in Paris to get a living out of the new method. Count C. heard of the protection which was said to be conferred by the artificially induced disease, of its comparatively slight danger, and, consulting Dr. Hosty, became a convert to the new method. He found Countess C. very glad to incur the moderate risk of the artificial small-pox, that she might be done with what had been the dread of her life; and, together with their son of seven years, they repaired to a house which they had hired in the outskirts of the city, and were inoculated by Dr. H. Countess C. proved insusceptible to repeated inoculations; the Count and his son took the disease. It did not, however, run a mild course, for the Count had a severe confluent form of small-pox, and the son likewise narrowly escaped with his life.

The narrative which the Count gives of the fears and the experiences of himself and family shows how gladly that suffering age caught at anything which promised protection from the ever impending danger, even a means of protection as severe and perilous as inoculation with small-pox virus, in the hope of having the disease in a mitigated form, and being done with it.

Answers to Correspondents.

Mr. B.—The turbidity or milkiness on boiling, of the sample of water which you sent for analysis, is due to its containing zinc which is of course derived from the galvanized iron pipe through which the water is brought. Otherwise than the contamination with this metal the sample shows that the spring furnishes a good water for drinking purposes. As regards the harmfulness of zinc-contaminated water, there is a difference of medical opinion; some claim that it is not injurious, and some that it is. I should prefer to be on the safe side and not use the water for drinking and domestic purposes so long as it becomes turbid upon boiling.

To L. E. B.—Samples of placards for use on houses which are infected with diphtheria or scarlet fever have been sent from this office to all the local boards of health, and a number of these should be kept constantly on hand by the secretary or health officer of each local board ready for use in an emergency, and new supplies will be forwarded from this office upon notification. We have no placards for typhoid fever and small-pox. In the case of typhoid fever, the outhouse and the well would be the more appropriate place for posting the placard to indicate the points of danger, and in the case of small-pox alone, it is thought well to reserve the use of the red flag.

THE

SANITARY INSPECTOR.

VOL. 2, NO. 6. DECEMBER, 1888. 25 CENTS A YEAR.

Sanitary Notes.

London is now having an epidemic of diphtheria.

A blank has been sent to the Secretary of each local board of health for the annual report of his board.

Circular 48, Isolation of the Infectious Sick, which was sent to the local boards of health last spring, will be found reprinted in this issue.

Health Officer Kilvington of St. Paul, Minn., is overhauling a physician who certified a case of scarlet fever as "sore throat."

The State Board of Health of Minn. has been apprised of a case in which scarlet fever was spread by infected books.

The unsanitary conditions of school buildings slacken the speed of educational progress more than one-third. [Dr. Wight.]

During the century previous to the discovery of vaccination, small-pox is calculated to have destroyed 45,000,000 of the people of Europe.

The State Board of Health of Iowa has included membranous croup in the list of infectious diseases subject to the rules and regulations of the board.

Eleven of a crew of men in a logging camp on Riley Plantation were recently taken sick with symptoms which the attending physician thought to be due to poisoning, and the corned beef was suspected of being the offending article. The State Board of Health is having an examination made of a sample of the meat which was sent.

An indignation meeting was held by the citizens of the Second Ward, Worcester, Mass., to protest against the unsanitary condition of the school house. We have a few school houses nearer home over which the same kind of indignation would be a healthy move.

According to official Statistics 3,932 persons contracted anthrax in Russia between 1879 and 1881.

A congress of hygiene which was held in Copenhagen, in August, was attended by 500 Scandinavian physicians.

A congress of hygiene, which had a numerous attendance of physicians, sanitarians, veterinarians, and engineers, was held in Brescia, Italy, last September.

The use of carbolic acid in the public hospitals of Paris increased from 369 kilograms in 1876 to 11,217 in 1885. This may be taken as an index of how the disinfectant and antiseptic idea has grown.

The official report gives 135,000 as the existing number of lepers in India, but there can be little doubt, says an English Journal, that they already exceed 240,000, and that their numbers are steadily increasing. No attempt at isolation is made.

The Russian press comment favorably upon the appointment of two lady physicians to the position of medical inspectors of the girls' high schools in Moscow.

The Hoagland Bacteriological Laboratory was formerly opened in Brooklyn, Dec. 15. This Laboratory was built and endowed by the munificence of Dr. C. M. Hoagland, and will be under the management of Dr. Sternberg and assistants.

On the 14th of November the new Pasteur Institute, in Paris, was opened for the treatment of persons who have been bitten by rabid dogs. This institution has been built and endowed by voluntary contributions, which have poured in to the amount of two million francs.

A Russian scientist has been making an extended investigation as to the effects of school life upon pupils. He finds that attendance upon school has a decided effect in hindering the development of the chest and lungs, but that the physical development of the pupil goes on rapidly during the summer vacation.

In connection with the active sanitary measures that have been set on foot in Japan since the cholera epidemic of 1886, the people themselves have come largely to appreciate the importance of sanitation, and the work is going on smoothly, without the least misunderstanding or ill feeling.—*Sanitary News.*

The *Builder*, in speaking of ventilation says, "There must be a hole somewhere, a broad channel, short, straight, and direct to the outer air, not a poor, little, crooked, hidden flue that dares not assert itself to be of sufficient consequence to claim a visible place in the structure."

In September Dr. Patterson of Roger City, Michigan, reported an epidemic of dysentery. At the date of writing, he had treated 231 cases, and had found the disease very contagious, but it was successfully controlled by isolation and the disinfection of the stools with chloride of lime.

Several residents of Florida whom the writer has seen say that public sentiment in that State is very bitter against the Legislature which would not respond to the demands for a State Board of Health, and against the Governor who refused to call a special meeting of the Legislature for the purpose of establishing such a board after the need of it was plainly seen.

We have not hesitated to declare even one case seriously suspicious of pestilential disease, knowing that the only hope of eradication is in the earliest recognition of such dangers, and the only means, the instant isolation and disinfection of that which even seems to be the spark of pestilence.—*Dr. Holt, ex-Pres. of La. State Board of Health.*

Nagasaki is a province in Japan which is fortunate in having a native governor who is bent upon ridding the town of the diseases which have until lately intested it. By means of a system of compulsory vaccination vigorously enforced, the Governor has succeeded in practicably stamping out small-pox which has long been a familiar scourge in the old town.

Even Spain has at last a system for the collecting and recording of her vital statistics, and by means of it we learn that there died in the kingdom during the first half of the current year 4355 persons of

small-pox, and 4204 of diphtheria. It is to be hoped that the positive knowledge which such statistics make available will have the same effect that it had in England, to arouse and inspire the nation, so that such sweeping epidemics as that of cholera in Spain in 1885 will be impossible.

When a factory is blown up or a sloop sunk there is an immediate cry for the punishment of some individual whose selfishness or carelessness has led to a calamity, in order that all men may be warned against the dereliction of duty in time to come. Yet how few remember that besides these occasional droopings, which so startle the ear, there is a great stream of death and misery holding its onward course, as to which they have never asked the question whether or not the bulk of its dark waters may be lessened. [Dr. Bell.]

Late journals bring the unwelcome news of the death of Dr. O. W. Wight, lately health officer of Detroit, Mich., and in that capacity well known as one of the most efficient of public health officials. He was an accomplished writer as well, and we have quoted more than once from one little work of his which we should be glad to see circulated widely in our own State, Maxims of Public Health, published by Appleton & Co.

A few weeks ago there was a small outbreak of diphtheria in the Maine General Hospital. The history of its importation is about like that at the Insane Hospital: An attendant shortly before the appearance of the disease had come from his home where there had been several cases of diphtheria. The ward in which it appeared was promptly evacuated, the walls, floors, and furniture were washed with a solution of corrosive sublimate and everything has been repainted, and it is hoped that the three cases which appeared have completed the history of the outbreak.

In 1883 an Italian deputy called the attention of his government to the sad condition of the mass of the people in Italy as regards the state of their dwellings. The houses of the peasantry in the great majority of cases were exceedingly unhygienic, consisting in many cases of a single room which serves as a living place for the whole family, and usually a numerous one, as well as a place for keeping all their household utensils and other things. The room is usually damp, narrow and musty and one cannot wonder when disease falls upon the inhabitants.

"Glad It was Done."

The last time we were in the office of the Local Board of Health of Portland, Mr. Burgess, the Secretary, said that they had found only two persons who made any serious objections to having the infectious disease placard put up on their doors. One of those was found lately, but when the Inspector, Mr. Sayward, went to remove the card after disinfection had been done at the end of the period of isolation, the lady said: "I am very glad I had that card put up; it has saved me a world of trouble in keeping out the neighbors," etc.

This practice is bound to find a warm appreciation among the thoughtful in every town where it is used, as it has in Portland.

Farmers' Bedrooms.

Professor Victor C. Vaughan, in a recent address, referred to frequent cases among farmers, in which indications of insufficient oxidation of the blood existed, in spite of the daily out-door exercise of the patients. The absorption of oxygen in the daytime was more than offset by the lack of ventilation of the farmers' sleeping apartments, where they spent nearly a third of their lives in a vitiated atmosphere, the conditions being frequently such that the oxygen would be used up by the sleeper in the first hour of retirement, the rest of the time being spent in an atmosphere unfit for human respiration.

Accidental Anthrax Inoculation.

One of the assistants in the Hygienic Institute in Munich, a while ago, accidentally inoculated himself with anthrax. He had a slight injury of the skin on one thumb which he did not notice until a dark red spot appeared on the site of it. The contents of the vesicle which developed showed a great number of the bacilli of anthrax and the infected spot was immediately extirpated. General infection, however, resulted and the patient became rapidly worse with high fever and great swelling of the axillary glands. The infected glands which had already reached the size of a man's hand were removed by Prof. Nussbaum, and the operation was followed the same evening by a marked diminution of the fever. The patient recovered and left the hospital twenty days after the operation.

Usefulness of Preventative Work against Diphtheria.

In Michigan there were 398 outbreaks of diphtheria during the year 1887. In 78 of the outbreaks where it is known that isolation

and disinfection were both enforced the average number of cases to each outbreak was 2.54 and the number of deaths, .65. In 202 outbreaks in which it is not known whether isolation and disinfection were carried out or not, there were 3.62 cases on an average and .94 death. In 118 outbreaks where isolation or disinfection or both were neglected the average number of cases was 11.78 and the deaths were 2.01. Thus in the outbreaks where isolation and disinfection were not carried out, there were more than four times as many cases and deaths, on an average than there were in those outbreaks where these measures were enforced. Dr. Baker, the Secretary of the State Board, says that imperfect as the work was in many towns, there were 518 lives, and 2371 cases of sickness saved from this one disease.

Diphtheria in Berlin.

During the years 1874 to 1884 there were in Berlin 13,701 deaths from diphtheria. How important it is to protect the children from this fell destroyer and to tide them safely over the dangerous years is shown by the figures which indicate the incidence of the disease according to age. The figures which represent the deaths among children at the ages of 0 to 5 years is 6.87; from 5 to 10 years, 3.52; from 10 to 15 years, .49; from 15 to 20 years, .08. Thus, the Berlin experience shows that children during the first ten years of life suffered a diphtheria death-rate more than 18 times as great as those between the ages of 10 and 20.

How to Take a Bath.

It rather detracts from our Yankee reputation for ingenuity to see what a fuss some of our people make, when they proceed to take a bath. If you want to bathe quickly and economically, do it as follows: Buy a piece of crash towelling and make a pair of bathing mittens by laying your hand upon the crash with the thumb extended, and cutting around it at a considerable distance, so as to leave a pretty wide margin for seams. Sew together two pieces thus cut out as a large and loose bathing mitten, making one for each hand. Take a quart or two of water in an ordinary bathing pan, or any ordinary flat bottomed pan, and standing in it, dip the bathing mittens into the water, and soaping them, go rapidly over the body, following the application of the soap with the application of water. With the bathing mittens made in this way one can take a bath in five minutes

after he is ready, and it is not much work to get ready; much more quickly than when he tries to rub himself all over at once with a round ball of a sponge. The bath may be taken in any room without wetting or soiling the carpet.

With both hands to work with, and the whole flat palms, with thumbs extended, this little act of devotion to personal hygiene, is quickly and efficiently accomplished The writer once invested in some attractive bathing mittens displayed in London shop windows, but they had no thumbs, and provokingly slipped round and round when in use. The homemade are better.

Disinfecting Establishments in Germany.

In the last year's meeting of the German Public Health Association, the following resolutions with reference to disinfecting establishments were passed.

Each large city should have one or more public disinfecting stations. For the general use of the public in small towns, transportable disinfecting apparatuses are preferable.

The use of public disinfecting establishments should be available to the poor without pay when their need is certified by the attending physician.

For purposes of disinfecting, "streaming steam" (stromende Dampfe) is preferable.

The choice of the apparatus, and the technical arrangement of it, will depend upon the local conditions.

In connection with the disinfecting establishment, it would be advantageous to have a bathing establishment.

Squalor and Inebriety; Mr. Chadwick's Confession.

I beg to offer some few illustrations as to the means of dealing with the important subject of overcrowding. When I was examining the slums of Edinburgh, I met an occupier of one of them, whom I well remember. He was a strong, well-built man, who answered the questions I put to him with great clearness. He was a porter, and earned more than twenty shillings a week. I asked him how he expended the wages he got, and he stated the details of his expenditure with apparent honesty. But these only amount, I said, to one half of your earnings. What do you do with the rest of your wages? "It goes in whiskey," he said. I could not help expressing my surprise and concern that so sensible a man as he was should give him-

self up to such a course. "Well, sir, this is the only place I could get; and if you were to live here you would drink whiskey, too." It so happened that while I was there I did feel a coppery taste in my mouth, a premonitory symptom from so depressing an atmosphere, and immediately I felt it, it is the fact that, rightly or wrongly, I sought correction in a diffusive stimulant, some warm brandy and water.—*Edwin Chadwick.*

Ubiquitous.

Dr. J. B. Hamilton, to whom our government is entrusting its national quarantine work, must be a ubiquitous man. He is also the Surgeon-General of the Marine Hospital Service, a professor in a medical college, and now he is saddled with the burden of editorially managing the Journal of the American Medical Association. And they say that the President spoke of everything else in his message, even of the epizoötics, but never thought of the health interests of the human inhabitants of the country, or made a single suggestion as to the desirability of preventing the recurrence of such calamitous epidemics as that which the frost is just lifting from our southern hores.

Think of the more than 100,000 of our American people who needlessly perish every year, whether yellow fever or cholera comes or not; of the 20,000,000 people who are sick every year with preventable diseases; of the resulting loss of time, and of the withdrawal from productive labor of these 20,000.000 and of their attendants; of the permanent physical, mental, and moral weakening, and the diminution of productive energy which is entailed; of the hundreds of millions of dollars lost annually in untimely deaths and in expense, not to mention mental anxiety and sorrow, heavy, but not of much account in financial circles. And think, too, of the imported pestilences which shrink the value of state and national industry, sometimes millions of dollars in an incredibly short time, to some extent by fatalities, to a greater extent by panics.

Preventable Disease not Prevented.

An outbreak of diphtheria was lately investigated by the State Board of Health of Iowa and they found the following history.

There had been about 175 cases in all with 39 deaths, or a percentage of about 22½ of fatal cases. After the appearance of the

first two cases, the disease subsided for awhile, then made its appearance again, and again subsided, when, finally, a great number were taken sick, with a mild form of sore throat, many cases, perhaps, not having any treatment, except some domestic remedies. There were at least forty of these mild cases before a death occurred, and then there was a public funeral. Soon the disease assumed a more serious form, and deaths were frequent; but it was not until a number had died, that any precautions whatever were taken to arrest the progress of the epidemic. Children from infected houses were constantly on the streets playing with children from houses where the disease had not appeared, and people visited without any regard whatever to the disease. A child was sick in the building in which the Post Office was located, and a door was frequently left open between the sick room and the post-office room, where 20 or 30 persons often waited the distribution of the morning mail. Other public funerals followed the first one, the physicians disagreed as to the nature of the disease, and there was no health officer to give the public the benefit of the doubt; no placards were posted to warn the people of infected places, there was no isolation, no disinfection; in fact a cordial invitation was given to the disease to come and do its worst, and it did do badly enough before it was done. Finally, diphtheria cards were put up, isolation was fairly established, and in most cases disinfection of clothing, bedding, and houses was enforced. Then the disease began to subside.

The State Board of Health of Iowa thinks comment is unnecessary, and so do we. If any of our Maine towns have managed as badly, the expensive lessons of personal experience and the suggestiveness of this history may help them to do better next time.

Circular No. 48.

State Board of Health of Maine.

TO THE SECRETARIES AND HEALTH OFFICERS OF LOCAL BOARDS OF HEALTH.

On Isolation of the Infectious Sick.

The need of this circular is suggested by occasional enquiries in regard to the isolation of infectious persons and households.

Excepting in the case of small-pox, by far the most importan measures to prevent the spread of the infectious diseases are isolation and disinfection. Though it is theoretically possible that the poison of such infectious diseases as small-pox, diphtheria, and scarlet fever may be carried long distances in the air, it is certain that the nearer the infectious focus or centre, the greater the risk of infection. When once the germs of the disease have escaped into the outer air, they are immediately so diluted and borne away in the great mass of the external atmosphere, that the chances of infection from that source are very slight. It is, therefore, practically only in the confined air of infected rooms, or in the proximity to articles which have been exposed to such polluted air and saturated with the infection which it contains, that there is danger.

Hence, the necessity of excluding susceptible persons from the infectious sick-room atmosphere, and of guarding the public against the danger of the conveyance of the infection in the clothing or on the persons of those who have been exposed to this atmosphere.

No person has a right to communicate an infectious disease to his neighbor or his neighbor's child, and this truth is recognized by both the common and statutory law. Morally and legally every person is bound, when an infectious disease is present in his own house or that of his neighbor, to observe those reasonable precautions which the law directs and which it is the duty of the local board of health to enforce when necessary.

But, in the execution of their duties, the spirit of the law, as well as its letter, should be kept in mind by the local boards. The greatest good of the greatest number is the purpose of the law. To avoid a common danger, the individual and the few are sometimes imperatively required to suffer a temporary inconvenience. But the duties of the local board do not cease with establishing isolation or quarantine. A humane consideration of the rights, and as far as possible of the interests, of the individual as against those of the many should be carefully considered.

The question, therefore, will often arise as regards the extent to which the severities of a rigid isolation may be mitigated without endangering the general safety. The answer to the question will depend, in the first place, upon the character of the disease with which we have to deal, and in the second place, upon considerations of ex pediency, urged by the various individual and local circumstances.

As regards the nature of the disease, if it is typhoid fever there will be no need of a strict isolation. In the well-ordered typhoid-

fever room, the air is not charged with an infection which is capable of being transported in clothing and communicated to others. While, therefore, the person who comes to the infected premises and drinks the same water, eats the same food, and is subjected to the unsanitary conditions which may have been factors in the causation of the fever, may become infected, there is no danger in permitting the well members of the family to pursue their usual vocations and mingle with the public.

On the other hand, if small-pox appear, we have a disease to deal with which is infective, not only to the unprotected who come into its immediate presence, but to those who are brought into contact with persons and things that have acquired infectious qualities by exposure to the sick. In this disease, the quarantine should be absolute as regards the sick, the attendants, and the whole household; because, to the unprotected, small-pox is the most fatal malady of modern (perhaps of all) times; and this is so generally admitted, that the sentiment of the community, when the disease is recognized, will sustain the local board of health in doing what is best for the general good.

In scarlet fever and diphtheria, we also have diseases which are communicable, either directly from the patient, or through infected clothing or other articles. It may also be said that since the practice of vaccination has become general, the sickness-rate and death-rate from either of these two diseases is a much more grievous burden than that from small-pox. Unfortunately, however, public sentiment does not always sustain the local board in carrying out those measures which would be best. Therefore the question of policy often arises, and it is asked: Just how far may considerations of expediency influence the local board in its treatment of scarlet fever and diphtheria? What *must* be done in all cases; what may be omitted in some?

Every case should be reported promptly to the local board as the law provided in Chapter 123, Sections 10 and 13. This is absolutely necessary, and should, in every case, be insisted on. To make it as convenient as possible for him, every physician in this State has received from this office a supply of the blank, "Form 1;" and, when more are needed, they may be obtained from the secretary of the local board, or from this office.

Every house in which a case of diphtheria or scarlet fever exists, should be placarded, the teachers of the schools in the neighborhood should be notified, and children from infected houses should strictly

be excluded from school, Sabbath school, churches and all places where they would be liable to infect other persons.

After doing this, or receiving trustworthy assurances that it will be done, and having left with the family the appropriate preventable disease circular, the further management may depend upon the attending circumstances of the case.

Where a physician is in attendance, it is by all means desirable to have his co-operation. When he will give it, as he nearly always will, it is better to ask him to direct the family in regard to disinfection.

It will not always be necessary, and will often not be practicable, to confine the whole family to their premises. In country places there is no need whatever of restraining the movements of the members of the family on their own farm. In a crowded city or village there is more need of restraint, particularly of the younger members of the family. It is rarely, however, necessary to shut absolutely the family within the walls of their own dwelling, and the necessity for this arises usually from their perversely ignoring the rights of others, and their refusal to observe reasonable precautions against spreading the infection. In such cases, it will sometimes be needful to place a guard over the house.

If the patient is isolated from the other members of the family within the infected house, these other members may safely be permitted more liberty than when all are exposed to the infection.

Shall the head of the family, the wage-earner, be permitted to attend to his work? This usually must of necessity be permitted, and generally may with comparative safety, when his work does not bring him into close association with other persons, particularly with children. This privilege should not be granted, unless the patient or patients have a room to themselves, to which the person who is allowed the freedom has no admission.

The isolation of the infected household is in the interest of humanity, and should be effected in such a way as to cause the least possible hardship. When absolute quarantine is established, it is important that the local board should be mindful of the probable needs of the imprisoned family, and provide a method for supplying them with the necessaries of life.

To sum up in a few words, the purpose of the law is to protect the health and lives of the people. Whatever is necessary to accomplish this must be done, even though individuals occasionally suffer in consequence. But, in the enforcement of the law, all needless distress and annoyance must be avoided.

CIRCULAR NO. 50.

STATE BOARD OF HEALTH OF MAINE.

Contagious Diseases and Contagion.

The past history of the prevalence of contagious and infectious diseases in our State, in common with that in other States, is substantially as follows:

One case or a few cases of diphtheria or scarlet fever appear in a family or a school. The origin may be importation, or it may be unknown. The first persons affected are not sufficiently secluded; the disease spreads to other pupils in the school, to other members of the same family, to other families, to a large part of the community or the town, to other towns, and the result in lives destroyed, in suffering from illness, in watching and anxiety, in time lost and in money spent is sometimes appalling.

Fortunately the popular judgment is fast coming to recognize the fact that there is a human responsibility in these matters; that if infectious diseases are allowed to spread from their first points of appearance, somebody is to blame, the patient, friends, boards of health, the community at large.

It is a fact, which has been shown again and again in the experience of physicians, nurses and health officers, that those diseases which we call infectious or contagious, may be prevented and restricted, and that their spread and prevalence is in very close relationship to the amount of ignorance of this fact, or want of regard for it, which prevails in a community.

A person comes, therefore, naturally to be regarded as blameworthy, even criminal, who neglects or refuses to take those precautions, which are necessary to prevent the spread of infection from himself, or from those under his charge to others. The man who raises his hand against his fellowman with a weapon is held as a criminal under the law. Is it not also criminal needlessly to expose others to the poison of a dangerous disease, which he carries, or probably carries in his person or clothing? Jurists have answered as follows:

If a man, conscious that he carries about with him the germs of a contagious disease, recklessly exposes the life and health of others, he is a public nuisance and a criminal, and may be held answerable for the results of his conduct. If death occurs through his recklessness, he may be indicted for manslaughter. It is held that where a man knowingly communicates a contagious disease to another and death results, the crime is that of manslaughter. The man may be indicted also for spreading the disease by conscious exposure of others thereto, by his presence in public places, such as on the streets, in halls, etc."—*Judge Dixon, of New Jersey.*

We feel certain that every good citizen also will answer "yes," and be willing, when, at rare intervals, he or those under his charge suffer from contagious diseases, to take pains that no careless act of his may be the possible death-sentence of some other person.

Contagious diseases can be kept from spreading. The law of our State recognizes this fact, and wisely makes the following provisions:

1. That "whenever any householder knows or has reason to believe that any person within his family or household has small-pox, diphtheria, scarlet fever, cholera, typhus or typhoid fever, he shall within twenty-four hours give notice thereof" to the health officer, when there is one, otherwise to the secretary of the local board of health.

2. That the local board of health shall immediately notify the teachers in the neighborhood where cases of the infectious diseases have occurred, and it becomes the duty of the teacher to exclude from the school-house pupils and other persons from the infected house or houses.

3. That the patient shall be isolated. The power is conferred upon the local board, and the law makes it its duty to require the isolation of all persons and things that are tainted with, or have been exposed to, contagious or infectious diseases.

4. That the public shall be notified of infected places by the display of red flags or placards at the entrances of the premises.

5. That disinfection of all infected places and things shall be carried out in accordance with the instructions of the local board of health or the attending physician.

6. That house-holders or parents shall not permit infectious persons, clothing or other things to be removed from the house without the permission of the local board of health or attending physician.

7. That "no parent guardian, or other person shall carelessly carry about children or others affected with infectious diseases, or knowingly or wilfully introduce infectious persons into other persons' houses, or permit such children under his care, to attend any school, theatre, church, or any public place."

8. That "no person affected with small-pox, scarlet fever, diphtheria, or cholera, and no person having access to any person affected with any of the said diseases shall mingle with the general public, until such sanitary precautions as may be prescribed by the local board or the attending physician, shall have been complied with.

9. That persons recovering from infectious diseases, and nurses who have been in attendance on persons suffering from any such diseases, shall not leave the infected premises until they have taken such precautions as are necessary to prevent the carrying of infection.

10. That no person shall give, lend, transmit, sell, or expose, any bedding, clothing, or other article, likely to convey infection, without first taking such precautions as the local board of health may direct for removing the danger.

The legal obligations, therefore, of the individual as regards the contagious diseases may be summarized as:

Notification of the local board.

Isolation of the patient and of infectious things.

Disinfection of person, clothing, rooms and other things which have become infected.

It is very important that all cases of the infectious diseases be reported early. The local board will then be able to satisfy themselves either by a personal conference with the house-holder, or with the attending physician, that the family and attendants understand the proper methods of preventing the spreading of the disease.

From the local board of health circulars may be had, which give instructions in regard to the principal contagious diseases, and the

best means for preventing their dissemination. When epidemic or infectious diseases threaten to spread, these tracts should be circulated broad-cast in the community, and for this purpose the needed number of copies may be obtained of the local board of health, or directly from the State Board, by sending a postal card to the Secretary, at Augusta.

The good effects of the distribution of these circulars has been very apparent in the immediate limitation of outbreaks as soon as the community has obtained a clear understanding of the exact nature of the danger, and the best methods of meeting it.

Isolation. At the earliest possible moment after the contagiousness of the case is suspected, the patient should be put into a room in which he will be isolated from the rest of the family, and where he will be attended by the physician, and only such others as are absolutely necessary, all of whom should take special care not to distribute the infection.

When the parents act as nurses, it is manifestly improper that either of them should at the same time mingle freely with the general public. Only those members of the family, who do not have access to the sick ones, can with safety to the public go at liberty; and even then they should avoid as much as possible going into public assemblages, especially where there are children.

When possible, it is better to have the sick chamber on the upper floor. Before the patient is moved into it, every thing should be removed which is not essential to his comfort. It should be borne in mind that the fewer things there are in the room, the less will be the work of disinfecting and cleaning up; for every thing that remains must subsequently be disinfected.

The strictness of the required *isolation* will depend upon the character of the disease.

Typhoid Fever is only in a slight degree infectious directly from the patient to others. The infectious material exists only in the discharges from the patient; and, if these are promptly and properly disposed of, there is but little danger in the sick room. The discharges should be thoroughly disinfected, and not thrown into the privy vault, or where they may polute the ground around human habitations, or find their way by surface wash or soakage into any well, spring, or water-course, which serves as a drinking water supply. (See Typhoid Fever Circular.)

Small-pox, *Diphtheria*, *and Scarlet Fever*, on the other hand, are communicable directly from the patient to others. The infection is given off in the breath, from the whole body, and the discharges are undoubtedly infectious in all. The contagion of each of these three diseases is doubly dangerous for the reason that its vitality (its in-

fectiousness) is often preserved for a long time. That is, rooms, clothing, and other things, which have become contaminated may retain their infectiousness for months or even years, unless the contagion is destroyed by disinfection. (See circulars on *Is Diphtheria Contagious?*, *Small-Pox*, *Diphtheria*, and *Scarlet Fever.*)

Disinfection. We know the essential cause of some infectious diseases consists in a microscopic organism, and we have good reason to surmise that all of them are dependent on similar living particles. These micro-organisms or germs are hard to kill. A slight fumigation with sulphur or chlorine would quickly kill a man; but, though continued for hours, would be entirely harmless to these disease germs. It is necessary then entirely to disregard old traditions, and to use only those disinfecting agents and methods which both experience and the latest investigations have shown to be trustworthy destroyers of infection.

Burning will destroy infection, and should be employed in the case of all worthless articles.

Boiling in water for half an hour will disinfect all things which can be so treated. Boiling water in excess may also be used for disinfecting infectious sputa, and excreta in closed vessels.

Steam under slight pressure or freely streaming through the articles can be used on the larger scale for disinfecting bedding, clothing or other things which cannot be boiled. For this purpose special disinfectors are required.

Chloride of Lime, in solution, six ounces to the gallon of water, is one of the best of disinfectants for infectious sputa, excreta, privy vaults, etc. It injures clothing.

Corrosive Sublimate (very poisonous if swallowed) is one of the surest of disinfectants for many purposes. Its use should always be under the direction of some intelligent and careful person. In solution, about one drachm to the gallon of water, it is the most desirable disinfectant for washing walls, floors, and all the wood work of furniture. Clothes may also be soaked in this solution until they can be washed.

Carbolic Acid. (seven ounces to one gallon of water), is a good disinfectant for clothing until it can be boiled. It does very well also for sputa, excreta in general, and some other purposes. It is more costly than, and upon the whole not so efficient as, Chloride of Lime and Corrosive Sublimate, for the purposes for which they have been recommended.

Fumigation with sulphur is a useful auxiliary, but should not be depended upon alone. To disinfect a room ten feet in each dimension, three pounds of sulphur should be burned.

All disinfectants require time to act. When matter is to be disinfected, it is almost useless to dash it with a disinfecting solution and immediately pour it into the vault. The matter or things to be disinfected should remain subjected to the action of the disinfectant quite a long time, several hours, if possible. (See *Circular No 38, Disinfectants.* or directions for their use, on last page of each preventable disease circular.)

One hundred thousand or more persons die annually in our nation from diseases which are clearly preventable, and a large part of this excessive mortality is due to the contagious diseases. In no other way can a person be more truly a public benefactor than by contributing his mite of care, and in using his influence to stay the unnecessary slaughter. He who thoughtlessly spreads infection, or allows it to be spread, needs to be taught; he who wilfully does so, richly deserves the penalties of the law.

THE

SANITARY INSPECTOR.

VOL. 2, NO. 7. JANUARY, 1889. 25 CENTS A YEAR.

Sanitary Notes.

Will those local boards which have not yet made their annual reports, do so at as early a date as possible. Then we shall not be compelled to say, in the Annual Report of the State Board, "No report received."

To the local boards of health. The State Board now supplies the local boards not only with the preventable disease circulars, but with all blanks and placards for use in restricting the infectious diseases. Therefore, see that, at all times, you have a sufficient supply of these papers on hand.

The Ladies' Health Society of New York City are distributing circulars among householders, requesting them to burn all their garbage instead of disposing of it in the old way. The circular points out the unhealthfulness of accumulations of garbage.

Mould and decaying vegetables in a cellar weave shrouds for the upper chambers. [Dr. Frank H. Hamilton.]

The person whose curiosity to test his eyes by gazing directly at an arc light at short range may have his own stupidity to blame for his conclusion that the electric light is not good for the eyes.

The *Medical Record* says that the hog is ahead, for the United States Government has spent more money in the investigation of his diseases than it has for all the diseases affecting the human race.

In Switzerland two, and probably three, deaths have occurred from glanders among the grooms of a horse which had this disease in a concealed form.

For the year 1884 Norway had a death rate of only 16.5 per 1,000 for the whole country.

Christiania, the capital of Norway has a death rate from consumption of 36 to the 10,000 inhabitants, but in the town of Tromsö, lying far northward, the death rate from this disease is only 2 in the same number of inhabitants.

The public health conditions of many parts of Russia are said to be deplorable. In some places the death rate is from 60 to 80 per 1,000 and a late Russian writer estimates that not less than 1,000,000 unnecessary deaths occur annually in the Empire.

A French physician, Dr. Gautier, has fallen a martyr to his zeal in investigating the subject of infection by the germs of tuberculosis. In pulverizing tuberculous sputa for the purpose of making experiments, he became himself infected and died recently.

Rabies is unknown in those islands into which it has never been imported. It has never appeared in Australia, Van Dieman's Land, the Azores, nor in St. Helena. It was brought to America and the West Indies only at the close of the last century.

In a recent instance in Portland, in this State, in which, on account of somebody's fault, a public funeral was arranged for a child which had died of diphtheria, the local board of health did a good thing in sending its inspector to the door and turning back the people who were unsuspectingly about to attend. Some of them were very grateful for the warning which was given them.

According to the report of the Ohio State Board of Health, in 82 outbreaks of diphtheria in which disinfection and isolation were both practised, the disease spread from 3 only; of 33 cases in which isolation alone was practised, the disease spread from 8; in six of the latter, however, isolation was reported to have been imperfect. The disease was spread in each of the three instances in which public funerals were held.

Our circulation is now 4,000. Every time we send out a circular in the columns of The Sanitary Inspector nearly forty dollars are saved in postage by employing this medium of distribution. With

a larger volume of work our expenses for postage were less for the year just past than they had been in any previous year.

Some of the teachers who are making the sanitary inspection of their school houses show a very intelligent interest in the work and an appreciation of the need of reform in some directions. In regard to privies and privy vaults, one of the teachers writes: "If you will cause public sentiment or law to cause all school house outbuildings to be cleaned twice a year, you will do a very grea work for morals and health throughout the State. The horrible condition of many of these buildings is worthy only of the lowest heathen lands."

Dr. Bujioid of Warsaw, has got results with inoculations for rabies which are very favorable to the method. After employing Pasteur's intensive method, he inoculated 370 persons who had been bitten by mad dogs, not one of whom has died although sixteen months had elapsed at the time of the report.

In 1883 a French writer, Du Claux, said that in France there were 7,300,000 people living in 259,270 dwelling places without windows, and 11,000,000 who were not much better housed. If this is not overstated, and the French death rate and sickness rate are not much higher than ours, we must be guilty of other faulty methods of living to offset these unfavorable conditions.

A late Swiss writer claims that the prevailing baldness amongst civilized nations is due to an undiscovered microscopic fungus and he demands that the barbers shall cleanse and disinfect their combs, brushes, etc., that they may not spread the affection. He gives no facts however, to prove the correctness of his assumption.

The Health Officer of one of the Australian towns has lately given an account of a small epidemic of cat diphtheria. He had four houses in which the children were sick of diphtheria and in three of these houses he found that the cats had been suffering from difficulty of breathing and swallowing, and he surmised that the disease was transferred from them to the children.

The city of Buenos Ayres is carrying out public health works upon a scale which dwarfs anything which has ever been attempted

in any other part of the world. It has an improved system of sewers which is nearly completed for the whole city, and 40,000 houses are to be connected with the sewers, and, in addition, each and all of these houses are to be fitted up with sanitary appliances and to be put into a healthful condition within three years.

Prof. Bollinger maintains that in large cities from 40 to 50 per cent. of all deaths may be attributed to consumption and the other forms of tuberculosis, and recent experiments in his laboratory show that milk may prove infectious, whether taken from cows suffering from local or general tuberculosis. Only a few drops of undiluted milk from a tuberculous cow proved sufficient to produce typical miliary tuberculosis in animals.

Dr. Stewart, Commissioner of Health of Baltimore, lately stated before a meeting of the Sanitary Association of Newport, R. I., where a serious epidemic of diphtheria has prevailed, that he had found great advantage during an epidemic of diphtheria, like that which he was informed was at present in Newport, where faulty reports were sometimes made of cases, as of "tonsillitis," "membranous croup," "bronchitis," etc., though in neighborhoods where deaths were occurring from undoubted diphtheria, in being able to assume that these were all of one and the same character as the rest, and to act accordingly as regards forbidding public funerals, compelling disinfections of the premises, and the like. Through the possession of these powers, he has been able to reduce the occurrence of diphtheria in that city of 450,000 inhabitants to a remarkably small percentage of cases.

To Prevent Taking Cold.

Dr. Carl Seiler says that, to prevent taking cold, a person should take outdoor exercise at all seasons and in all kinds of weather, should not dress too warmly, should have plenty of fresh air in his house and especially in his bedrooms, and should not heat the air in his rooms above 68 deg. or 70 deg. Fahr.

Bacillus of Diphtheria.

D'Espine of Geneva confirms Löffler's claim that a certain bacillus discovered by him in diphtheritic false membrane is the causal

agent of diphtheria. He never failed to find Löffler's bacillus in cases of true diphtheria or diphtheritic croup; and he has often reproduced the disease in hares and guinea pigs by inoculating the products of a series of pure cultures; bacilli from a 25th culture were proved to have the same pathogenic properties, and speedily produced the disease.—*Am. Micros. Jr. from Lyon Mèdical.*

Care of the Teeth.

Beware of patent tooth preparations, the composition of which you know nothing. Many of these contain ingredients which whiten the teeth but leave them after a while fit only for the dentist's forceps. The main thing, in the care of the teeth, is to keep them clean with toothpicks of quill or wood, and then brush with luke warm water and a little castile soap. Or if you want a tooth powder consult your dentist, if you have come to that, or use the following which your apothecary will put up: Powdered Carbonate of Magnesia, 3 drachms, pulverized Orris Root, 3 drachms, Thymol, 2 grains, Ol. Gaultheria, 4 drops. Mix.

Food and Medicinal Value of Milk.

Many people do not justly appreciate the value of milk as an article of food. It is well known that it has all the elements which are needed in a food to sustain human life. Generally those children which receive an abundance of fresh clean milk late into the years of childhood make the most healthful growth and lay the best foundation for vigorous life in later years. Cases have been known in which the use of an exclusively, or nearly exclusively milk diet has been prolonged into adult age and vigorous health has been maintained upon it; indeed some nations subsist almost entirely upon milk. Of late years the attention of the medical profession has turned more and more to the great advantage of a milk diet in certain diseases, particularly in the wasting diseases, or those that are characterized by great debility.

In a late paper by one of the most trustworthy of German authorities* the use of from three to four pints of milk a day is highly recommended for consumptive persons, particularly those who do not object to it. He points out the necessity of having the milk fresh and of always boiling it before use. A comparatively small quantity only should be taken at once; in taking a pint the patient

*Dr. Liebermeister.

should be an hour or two at it, and, between meals, he can take small quantities frequently. The same journal contains the notice of a work on Bright's disease in which the author prefers the milk-cure to any other treatment. The same mail brought the *London Lancet* with an article detailing the successes of a hospital surgeon in treating cases of general dropsy with the milk-cure.

These facts are mentioned to call the attention of the general public to the high value of milk as an article of food. It is not likely that milk contains any strictly medicinal qualities, but it acts favorably in these diseases by furnishing an abundance of albuminous food in a condition in which it is easily digested and readily absorbed, thus enriching the blood in a marked degree.

Dangers From Milk.

At this time when the most thoughtful of physicians, sanitarians, and veterinarians are calling the attention of the public to certain possible dangers connected with the use of milk, and are offering proofs to substantiate their suspicions, it behooves us, not to attempt to conceal a real danger, or to pooh ! pooh ! at a suspected one, but to take precautions against a probable, or even possible, source of disease. The danger which is most frequently pointed out is that of infection from the milk of tuberculous cows ; one regarding which there was a unanimity at the late Tuberculosis Congress in Paris. On account of this danger and others, it would be very silly for us to abandon the use of milk. The more rational course is to take those precautions which are required to ensure the healthfulness of the milk. The first is to boil all milk, especially all which comes from cows regarding the health of which we do not have an intelligent personal assurance.

Another precaution is to pursue the State policy which we have begun ; to cull out carefully every case of bovine tuberculosis which appears, and destroy the diseased animals. This is not a measure solely in the interest of health. It is one in the interest of the pockets of our people. Everything which we can do to insure pure air, pure water, and pure milk to the thousands who are summer residents with us, will make those thousands more likely to return to us repeatedly, and will ensure the coming of other thousands. Let us look at the selfish side of this question, when by so doing it will help along the humanitarian side.

We mentioned in a recent issue that a movement is on foot in one of the Swiss societies to induce the people of that country to use milk more freely instead of less nutritious articles, and we notice now that a society in Saxony has petitioned to the Minister of the Interior of that German State to introduce milk more plentifully into orphan asylums, houses of correction, and penitentiaries. This society is also striving, through the press and by means of circulars, to teach the people the great worth of milk as a dietary article and to work a public sentiment in favor of its more liberal use.

Registration of Vital Statistics.

The Maine Genealogical Society and the State Board of Health and many citizens who have thought about the matter are anxious to have an efficient State system of registration of vital statistics. The utter lack of provisions of this kind has put us in an unenviable light among the more intelligent class of other states, who have enjoyed the advantages of such a system. The following is a brief statement of some of the uses and advantages of having such a provision in our law and of having it faithfully carried out.

1st. It forms the basis of all sanitary work. In England their improved system of registration of births, marriages and deaths was begun in 1837, and since then it has served as a guide to indicate the places where there has been the greatest need of taking measures to improve the public health. If, in a given town it is found that the death rate from typhoid fever, consumption, diarrhœal diseases of children, or other diseases is higher than it ought to be, the Local Government Board institutes an inquiry into the causes of the prevailing high rate of mortality. As the result of these inquiries local boards have been led in many of the towns to take measures which have reduced the death rate in a marked degree. Massachusetts has had its system of registration of vital statistics for many years and finds its records of the greatest value in determining general and local rates of mortality, or whether a given disease is less or more prevalent than formerly.

2d. To prevent the concealment of crime. The indispensable provision of modern registration laws which requires a certificate from friends or the attending physician of the cause of death and a burial permit is an assurance of safety in this direction.

3d. To ensure the means of proof of personal identity and of right to property. One senator in our legislature of 1887 told the

writer that it cost him fifty dollars to look up the proof of the date of a birth. The applicants for pensions in Massachusetts are furnished by the Commonwealth with the means of substantiating their just claims which our State does not accord its citizens.

4th. To ensure the means of the proof of age with reference to the prevention of election and other frauds.

5th. To assist the State in arriving at correct conclusions with regard to measures of internal economy, taxation, employment and commerce.

6th. To furnish a record which is always available in tracing the genealogy of persons or families.

Maine stands alone among the New England States in having no system of registration of vital statistics, and consequently is like a ship at sea without a compass as regards her knowledge of where she stands in the health scale. We think we have good reasons for *surmising* that there is no State in the Union with a lower general death rate. If this is true, the proof of the fact would be worth something. If, on the contrary, the local death rates in some of our towns were making the general death rate higher than it ought to be, the absolute demonstration of that fact might lead these towns to remove their bad record.

When to Bathe.

This question has frequently been asked and the replies have been varied. We feel that in winter the time to bathe is just before retiring for the night. A warm bath at this time will tend towards securing good sleep, and there will be no risk of "taking cold." A warm bath will open the pores of the skin, and if this is done upon rising in the morning, and we go out after breakfast, the cold will be very apt to suddenly contract these pores, no matter how warmly we may be dressed. This sudden contraction will react injuriously upon the internal organs and may ultimately result in serious disease. This, we believe, with the vigorous as well as with the feeble individual, only the former will not at the time experience so much discomfort as the latter, and it may be longer before his vital organs suffer, but the effect will be the same in both cases. But how about the cold bath? We do not think that any one ought to take a really cold bath. The warm bath will be much more cleansing and, we believe, much more healthful. Therefore, let us establish the custom of a warm bath the last thing

before retiring at night, but if this be impossible, at least do not venture out into the cold for at least three hours after bathing.—*The Annals of Hygiene.*

Town Improvement Societies.

There is an effort in quite a number of towns to organize Town Improvement Associations—a movement which gives promise of good to the State, as well as to the localities which will come directly within the sphere of work of these societies. A few of these associations are already in existence in our State, and many more are in operation in other states and countries. Their purposes as set forth in their titles and constitutions, are not the same in all places. In some towns and villages the work of the association has been confined to improving the external appearance of the town, while in others it has been directed to alleviating or improving the domestic and social conditions of the people. In other places these two purposes have been combined.

The winter is a good season to organize these associations, and to utilize the long evenings for mutual instruction and for planning future usefulness.

In regard to organization, we would suggest as great simplicity as possible. There should be a president and secretary, and an executive committee of from three to seven members.

It is not best to plan too much; a little accomplished is better than many plans and nothing done. A few earnest workers may accomplish considerable, and, though a large public attendance may not be secured, the good efforts of the few will gradually leaven the mass. Where several kinds of work are attempted, it is a good plan to appoint a special committe to take care of each, and to report the results of their enquiries and work at the meetings.

The following might serve, in the constitution, as the basis for setting forth the purposes of a society of this kind.

1st. To coöperate with the local boards of health in removing the causes of disease and ill health.

2d. To coöperate with the municipal officers in improving and beautifying the town or village.

3d. For mutual instruction in the essential principles of healthy homes and healthy living.

4th. To systematically and regularly inspect the sanitary condition of schools and other public institutions.

5th. To help and encourage the poor to improve their homes, and to instruct them in regard to the proper precautions necessary to prevent the spread of infectious diseases, and to escape other sources of disease.

6th. To encourage that eternal vigilance which is the price of public health, as well as of public liberty, and to cry aloud and to spare none who threaten the welfare of the community.

And we would also suggest, if the following would be appropriate to the town:

7th. To look after the safety of our summer resorts, and to use our influence to prevent the destruction or lessening of their health-giving advantages.

The annual fee for membership should be quite low, not to exceed one dollar, and children may be admitted for a small or nominal fee. One association admits persons to membership upon their agreement to plant a tree under the direction of the executive committee, and to care for it for three years.

At the meetings of the association, papers should be read by the members on subjects connected with public health or village improvement, some of which may be selected. We would also suggest to all societies of this kind which are already organized, or may organize, that this office would be very glad to supply the members with the publications of the State Board of Health, for their own use or for distribution.

The Use of Tobacco.

Dr. C. W. Lyman, in the New York Medical Journal, discusses in a very entertaining way, tobacco, its use and abuse. He says that the tobacco alkaloid, nicotine, is one of the most powerful of the "nerve-poisons" known. Its virulence is compared to that of prussic acid. If birds be made to inhale its vapor in amounts too small to be measured, they are almost instantly killed. It seems to destroy life, not by attacking a few, but all of the functions essential to it, beginning at the centre, the heart. A significant indication of this is that there is no substance known which can counteract its effects: the system either succumbs or survives. Its depressing action on the heart is by far the most noticeable and noteworthy symptom of nicotine poisoning. The frequent existence of what is known as "smoker's heart," in men whose health is in no other respect disturbed, is due to this fact.

Those who can use tobacco without immediate injury will have all the pleasant effects reversed, and will suffer from the symptoms of poisoning, if they exceed the limits of tolerance. These symptoms are: 1. The heart's action becomes more rapid when tobacco is used; 2. Palpitation, pain, or unusual sensations in the heart; 3. There is no appetite in the morning, the tongue is coated, delicate flavors are not appreciated, and acid dyspepsia occurs after eating; 4. Soreness of the mouth and throat, or nasal catarrh, appears, and becomes very troublesome; 5. The eyesight becomes poor, but improves when the habit is abandoned; 6. A desire, often a craving, for liquor or some other stimulant, is experienced.

In an experimental observation of thirty-eight boys of all classes of society, and of average health, who had been using tobacco for periods ranging from two months to two years, twenty-seven showed severe injury to the constitution and insufficient growth; thirty-two showed the existence of irregularity of the heart's action, disordered stomach, cough, and a craving for alcohol; thirteen had intermittency of the pulse; and one had consumption. After they had abandoned the use of tobacco, within six months' time one-half were free from all their former symptoms, and the remainder had recovered by the end of the year.

A great majority of men go far beyond what may be called the temperate use of tobacco, and evidences of injury are easily found.

The Germ Theory in Consumption.

"What changes has the acceptance of the Germ Theory made in Measures for the Prevention and Treatment of Consumption?" is the title of an essay by Dr. Charles V. Chapin of Providence, to whom was awarded a premium of two hundred dollars by the trustees of the Fiske Fund, and he sums up his paper with the following practical conclusions:

1. Teach the people the true nature of tuberculosis; that no one ever has tubercular consumption unless the tubercle bacilli find their way into the lungs.

2. Teach them also, that, even if it finds its way there, it will not grow unless the conditions are right. Teach fathers and mothers how to rear healthy boys and girls. Tell them what to eat and what to wear, to exercise, to breath fresh air. This alone would exterminate phthisis.

3. The contagion must be destroyed. Fortunately in this disease there is no need of isolation. Disinfection is enough. The consumptive patient gives off the poison only in the sputum, or perchance the other excreta, if the disease extend beyond the lungs. The virus is not given off from these while moist. We must therefore disinfect all sputum at once with mercuric bi-chloride. Cloths must be used instead of handkerchiefs, and then burned; or, if the latter are used, they should be often changed, and immediately put in a bi-chloride solution and boiled. Bed-linen should be treated in the same way. Frequent disinfection of the entire person, and fumigation of the apartment, would be safe additions to the preventive measures.

4. Persons who have a marked predisposition to the disease had best not come in close contact with the phthisical. Children should never have tubercular nurses, wet or dry. In the case of consumptives very great attention should be paid to ventilation, and to the alimentation both of the patients and the attendants.

Such measures, if rigidly carried out, would be of enormous service in preventing this disease. But with the increasing prevalence of tuberculosis among domestic animals, something more is imperatively demanded. Active measures should be taken to free the country from animal tuberculosis. The proper authority for dealing with this, as well as all other contagious diseases of animals, is the Bureau of Animal Industry of the Department of Agriculture. It is a wasteful method for States to act independently. The powers and expenditure of this bureau should be greatly increased, and it should take active measures against this disease. The exact measures suggested are:

1. The reporting of all cases of tuberculosis in domestic animals to the proper authority, by both owners and veterinaries, or other persons having knowledge of the same.

2. The slaughter of all infected animals, and the isolation and slaughter of all exposed to infection. The government should partially idemnify all owners of slaughtered cattle.

3. Through disinfection of all buildings occupied by diseased cattle.

4. The confiscation of the flesh and milk and milk products of all tuberculous animals.—*Science.*

THE

SANITARY INSPECTOR.

VOL. 2, NO. 8. FEBRUARY, 1889. 25 CENTS A YEAR.

Sanstary Notes.

We have the pleasure of thanking many who have lately sent in twenty-five or fifty cents each as an indication of their appreciation of our effort to make this little monthly beneficial to the people of our State. Some of our subscribers send one dollar and ask us to remind them when the time has expired for which it pays, as they do not want to be without the paper. It is necessary for us to get something out of the subscriptions to help pay the printer's bill, but the warm words of encouragement which we have received verbally and by letter, and even the unwritten words which we imagine we can read on the dozen postage stamps, or the postal note, is worth more than the money.

Subscriptions come quite often from outside the State and in some instances lists of subscriptions have been forwarded. Such a list came recently from one of the Government Offices at Washington. We are glad to know that *The Sanitary Inspector* is liked without as well as within the State, but, as it is printed for our own citizens and offered at a price which, even with the advertisements, makes its publication a slightly losing investment, no effort is made to extend its circulation beyond our borders.

We have received the first two numbers of *The Sanitary Volunteer*, a very interesting little monthly which is published by the State Board of Health of New Hampshire as its official journal, and we are very much pleased with it. Its make-up is as attractive as its field is a noble one, and we wish it the success which we feel sure it will win.

A clergyman, not strictly orthodox, says, do not spend your money for a motto, "Save My Lambs," until you have cleaned out your cellars, privies, back yards and alleys. Diphtheria, typhoid fever, and other zymotic diseases, are not kept out of your house by mottoes.

The popular impression is that cancer is more prevalent now than in former years, but in this state, with no records of deaths, we have no means of knowing whether there is any truth in this assumption or not. Sir Spencer Wells has, however, lately shown that cancer is on the increase in his country. According to the English statistics there were, in 1861, 360 deaths per million of inhabitants, and in 1887 the number had increased to 606. In Ireland the increase in the last ten years has been from 350 to 430 in the million, and in Scotland, in the last twenty years, the increase has been from 404 to 540.

Next summer an International Congress of Hygiene will be held in Paris, and among other subjects, upon which papers will be read and discussions will be held, is the hygiene of childhood; city and country hygiene, including building of dwellings, heating, ventilation, sewerage and drainage, etc.; bacteriology in relation to hygiene; industrial hygiene; international and administrative hygiene; food supply, including drinking water and filtration.

The ladies of Zurich, Switzerland, are organized into a society for mutual help and improvement, but do not confine the beneficent influence of their work to themselves alone. They give public courses of instruction on subjects connected with domestic sanitation and economy—foods and cooking, what to do in emergencies, light, heat, clothing, care of the home, etc.

The Epidemiological Society of London has extended the scope of its influence to the consideration of consumption as a widely spread epidemic disease, with a view of dealing with it as preventable.

At a recent meeting of the Academy of Sciences, Paris, Prof. Bouchard presented a paper in which he claims that it is demonstrated that the germ of Laveran is the true microbe of malaria.

Courses of instruction for school officers are now given in the Hygienic Institute in Berlin. They cover the most important and practical points in school hygiene—construction of school buildings, light, heat, ventilation, care of the school-room, construction

of desks, disposal of excreta, drinking water, infectious diseases, etc. The lectures are illustrated by making use of the material collected in the Museum of Hygiene, and by visits to the model school-houses of Berlin.—*Schweiz. Blatter F. Gesund.*

Surgeon-General Hamilton's sanitary inspector in Havana, Cuba, reports that thirty-four deaths occurred from yellow fever in that city in January, and that it is quite a number of years since there have been so many deaths from this disease in the corresponding month. He thinks the cause of the greater prevalence is due to the unusually warm weather.

Allow the child to eat enough at each meal to satisfy its hunger; more than this will do harm. Eating between meals is responsible for many of the gastro-intestinal disorders of early life; the habit should never be allowed to be formed, and, if it exists, should be broken as soon as possible.—*Dr. Edwards, in Arch. of Ped.*

It has been suggested that in seasons when epidemic and contagious diseases prevail, school-houses should be regularly fumigated. This has been done in some places with the result that the spread of the disease has been checked, and the general health of pupils materially improved.—*The Sanitary News.*

That dangerous form of heating closed rooms or spaces with live coals has been applied in Paris lately to the warming of cabs, and two deaths from asphyxia in closed carriages have already occurred.

An epidemic of "croup" (i. e., diphtheria) is said to have broken out in Saint Hubert, in the province of Luxemburg, of such severity that out of a population of 3000 no fewer than fifty children died within a week. An even more severe epidemic of diphtheria is reported from Nago, in Hungary, where twenty children are dying daily. In both places the inhabitants are said to be panic-stricken.

In the clay which has been taken from the two artesian wells in Atlantic City, N. J., a microscopic examination shows a great

abundance of diatoms in the material which comes from five hundred and fifty feet below the surface and even at 1,125 feet in depth, fifteen forms of foraminifera were found.—*Microscopical Bulletin.*

The last number of the *Occidental Medical Times* gives an interesting history of epidemic dysentery which occurred in Tehama county, California, in 1883. The disease spread rapidly from one or two sporadic cases, and the contributor, Dr. Westlake, is convinced that the disease was spread by infection.

In the Royal Infirmary in Edinburgh the ladies connected with the School of Cookery and Domestic Economy, have for the past few years annually given to a large number of the medical students a course of demonstrations explanatory and illustrative of the principles and practice of the preparation of digestible and palatable invalid foods.

For the restoration of the nerves of the queen of Sweden to their normal condition, her doctors have ordered her to rise early, make her own bed, dust and sweep the room, walk in the garden before breakfast, work among the flowers afterwards, and lead generally an active outdoor life. Already this chambermaid treatment, as it is called, has benefited the queen.

Thirteen years ago James Lick, a San Francisco millionaire, bequeathed $130,000 for public baths in that city. They will probably be completed next year.

Mrs. Mary Hemmingway and other public spirited ladies of Boston, are doing a good work in providing, at their own expense, special instruction in calisthenics to a large class of female teachers, having in view the benefit which their pupils under their charge will derive from physical training.

Diphtheria is a contagious disease. There is probably no spontaneous origin of diphtheria, any more than there is a spontaneous origin of cholera or scarlatina. When an attack of diphtheria has made its appearance, it is well enough to examine the hygienic conditions of the house, with its deteriorating influences on the

general health of the inmates, and to look after the source of the cause in the persons of friends, attendants and help.—*A. Jacobi, M. D.*

Expenditure of Muscular Force in Dancing.

It has been estimated that, in a single night of the ball of the great opera at Paris, the two thousand persons who participate in it expend an aggregate muscular force which is equal to 500 horse power. This would suffice to drive a ship of 1800 tons burden nearly forty miles. After such a forced muscular expenditure as occurs in dancing it is no wonder that immediately afterwards many who participate need to recuperate.—*Schweiz. Blätter f. Gesundh.*

The Golden Rule says that a statistical young man, by means of a pedometer, found out at a recent ball that in twenty-two dances he travelled thirteen and one-half miles. He also found that the average length of a waltz was one-half mile; of a polka three-quarters of a mile; of a schottische one and one-half miles; and of the lancers one-quarter of a mile. If the figures are correct the editor thinks that henceforth he will have less pity for the pale languid young woman who can dance all night, but cannot take enough wholesome, outdoor exercise to keep her blood from stagnating.

Hygienic Advantages of the Electric Light.

Theoretically there is a great advantage in closed rooms in using the electric light instead of gas light, and practically it has been found in the Post Office Central Savings Bank in London that during the past two years, since the introduction of the electric lights into the building, there has been a marked decrease in the amount of time lost from sickness by the clerks and employes. They get rid of the undesirable products of combustion which accompany the use of gas lights, and they therefore have a purer air to breathe.

"Catching Cold."

We find in neck wraps a common cause of "colds." If during winter, one were certain to wear the same wrap at all times when in the open air, there would be less danger. But the chances are that on some occasions when it should be worn, it will be left off, and a cold is the result. The silk handkerchiefs with which many

men adorn themselves are abominations, and cause more sore throats than any other influence. When once put on the wearers are wedded to them for the remainder of the winter. The coat collar is ample protection when turned up and buttoned closely, and a man is very foolish to use any other means for the purpose. Also, always wear throughout cold weather the same style of collar. If you wear a "dickey" to-day and a "turn-down" to morrow you are in for a sore throat, or something of that sort, the next day. No less important is it to wear continuously the same style of necktie.—*Journal of Health.*

"Sloyds."

A very strong movement is in progress in many European countries, especially the more northern, to combine hand-training with mind-training in the education of youth. This is shown in the reports of the proceedings of the manual-training congress which was held in Munich, three days of last September, and in an exposition which was held in Copenhagen not long ago in which sloyd exhibits from Norway, Sweden and Denmark were a marked feature. *Sloyd* is the Scandivanian name which is applied to schools of manual training. This tendency in educational methods is worthy of careful consideration, not only for the rudimental industrial education which it offers, but for the hygienic advantage of relieving our schools of their exclusively sedentary character.

Bovine Tuberculosis in Scotland.

At a meeting of the Scottish Metropolitan Veterinary Society at Edinburgh on Oct. 24th, a paper was read on the measures to be adopted for the eradication of tuberculosis. The author gave an account of an outbreak which came under his notice three years ago in a herd principally composed of pedigree shorthorn, showiug how the disease was communicated; and he alluded to the transmission of the disease to man by the use of the flesh and milk from tubercular animals. The measures suggested were the slaughter of the infected animals, the total destruction of the carcass, the compensation of owners, and the thorough disinfection of infected stables. In the discussion that followed Principal Williams remarked that the disease was spreading in the most alarming degree; for one case thirty years ago, they had a hundred now.—*Lancet.*

Prevention of all Infectious Diseases.

The science and practice of medicine and surgery are undergoing a revolution of such magnitude and importance that its limits can hardly be conceived. Looking into the future in the light of recent discoveries, it does not seem impossible that a tfme may come when the cause of every infectious disease will be known; when all such diseases will be preventable or easily curable; when protection can be afforded against all diseases, such as scarlet fever, measles, yellow fever, whooping cough, etc., in which one attack secures immunity from subsequent contagion; when, in short, no constitutional disease will be incurable, and such scourges as epidemics will be unknown. These, indeed, may be but a part of what will follow discoveries in bacteriology. The higher the plane of actual knowledge, the more extended is the horizon. What has been accomplished within the past ten years, as regards knowledge of the causes, prevention, and treatment of disease, far transcends what would have been regarded, a quarter of a century ago, as the wildest and most impossible speculation. —*Dr. Austin Flint in the Forum.*

Biology Economically Applied.

There was a very good investment made in Minnesota during last August. Prof. Otto Lugger, State Entomologist, learned that in certain sections of the State the chinch bug had made its appearance in such numbers as to threaten to cut short the income of the agriculturists. Realizing the danger, he stopped the ravages of the bug very summarily. Earlier in the season he had experimented at the State farm upon a fungoid disease of the chinch bug, and had found that, by propagating the disease, he could kill the bugs as fast as they matured. With his stock of diseased chinch bugs on hand he awaited news of the pest. Then he distributed diseased bugs. These communicated the disease to their fellows, and the bugs succumbed in immense numbers. It is probable that the grain saved by this ingenious device (simple enough when understood and applied) will be worth the salary of many State entomologists and experimenters for many years to come, even if they were to do no further service. Prof. Lugger has promised soon to publish an account of the disease.—*Am. Microscopical Jr.*

A Good Move.

The school committee on hygiene for the city of Boston, feeling the necessity of adopting every measure which will tend to keep school buildings in the best sanitary condition, have taken the following vote: That the committee on accounts be requested to instruct the janitor in each school that he shall keep all the windows and doors in his school open for five hours each day of the last three days of the week just preceding the opening of the school year (in September), in order that the building may be thoroughly aired for the purpose of disinfection; also, that on one of the days mentioned (the last day preferred) the building shall be heated sufficiently to remove all dampness which may be present; also, that on the first of the days named the water shall be turned on in all the faucets on the premises which empty into receptacles communicating with drains or cesspools, and allowed to flow long enough to insure the perfect working of the traps attached, from which the water may have evaporated during vacation time; also, that during the week mentioned the whole inside of each room shall be thoroughly brushed or rubbed down; that all the painted surfaces in the school shall be cleansed with a solution of corrosive sublimate (one part to 500); that all the floors shall be mopped or wiped with a cloth moistened with the same solution, and that all the desks, furniture, and apparatus shall be cleaned, and where possible, washed or rubbed with a disinfectant solution.

Emergencies—1.

Dr. Murrell, in the preface to his little work on poisons, says: "I can imagine nothing more painful than to be called to a case of poisoning and not to know what to do." That our readers may never find themselves in a position in which they will remorsefully feel their utter worthlessness, a few directions will be given in this journal, now and then, in regard to the proper treatment of certain emergencies, while waiting for the doctor to come.

In cases of poisoning from substances swallowed, there are two things to be done. 1st. Empty the stomach. 2d. Give something to stop the action of the poison.

To empty the stomach, give an emetic, a teaspoonful of powdered ipecacuana (ipecac) in a tumblerful of warm water, or a

tablespoonful of the syrup of ipecacuana, if either of these are right at hand. If vomiting does not occur, do not wait many minutes before repeating the dose. If the ipecacuana is not at hand, do not waste time in running after it, but stir a tablespoonful of ground mustard, if that is near, if not, the same quantity of salt, into a tumblerful of warm water, and give a quarter of it at frequent intervals, following each dose with a cup of lukewarm water. Use any water which you can get the most quickly, even that from the washbowl or laundry; the very repulsiveness of it will help along the emetic action. Meanwhile tickle the back of the throat with a feather, if at hand; if not, do not chase the rooster for his plumage, but run the finger down the throat repeatedly. Make the patient drink the water, cupful after cupful, until the very distension of the stomach causes ejection, and until vomiting has occurred again and again.

If nothing else is at hand proceed with the water as above.

The method of procedure to meet the second indication,—to neutralize or stop the action of the poison, will depend upon the character of the poison which has been taken.

If the character of the poison is unknown, and especially when it is suspected that it is an irritant poison, soothing liquids should be given after free vomiting has taken place,—milk, raw eggs beaten up, etc.

For *Acids*, sulphuric (oil of vitriol), nitric (aquafortis), muriatic (hydrochloric), oxalic, or oxalates, but not for prussic or carbolic acid, give alkalies, calcined magnesia, whiting, chalk, or, as almost always on hand and efficacious, soap, in the form of soapy water, soft soap, in tablespoonful doses, or hard soap rapidly shaved, or in bites, with water.

If *Alkalies* have been swallowed, (ammonia, or hartshorn, caustic soda, or potash, quick lime, lye of wood ashes) give acids (anything sour) of a mild kind like vinegar, cider, or lemon juice.

After poisonous acids or alkalies have been swallowed the thing to do first, and quickly, is to neutralize them, for they destroy life by their local corrosive action.

For Metallic Poisons (arsenic, corrosive sublimate, Paris green, for example) give on the instant large quantities of milk, raw eggs, gruel if at hand, flour and water,—anything of this kind which the poison may act on instead of on the coats of the stom-

ach. Empty the stomach as quickly as possible and keep up the vomiting until it is repeatedly washed out with the mucilaginous liquids (as above).

For the Vegetable Poisons, mostly narcotics, produce vomiting as quickly as possible. As antidotes, use later strong tea orcoffee without milk.

Presumption.

The unreasonable presumptuousness of some of the more ignorant persons with whom our health officers have to deal would be amusing if the results of their presumption were not often so unfortunate. One of the best of our health officers lately encountered an "omnipotent mother-in-law," who with all her kindly ministrations was an element of public danger because she would not believe that the household under her charge was affected with diphtheria. The outbreak did originate in that insidious way which often characterizes diphtheria, but which, on the other hand, is very different from the sudden and fierce onslaught of the disease in other outbreaks.

First the father had a sore throat which was thought to be the common, and not dangerous kind, the three children successively had sore throats, but did not appear to be very sick. Suddenly one of the children became worse and died of heart failure only a few minutes after the arrival of the doctor who happened to be the health officer. This was the first time the cases had been seen by a physician. One child still remains sick with diphtheria, the others have recovered.

Because some cases of diphtheria which you have seen were unlike some cases which your physician calls diphtheria, it would be very unwise and wrong to refuse to observe those precautions which he prescribes to guard against the danger of giving the disease to others.

Another Mild but Dangerous Form.

Not of presumption, but of diphtheria. Among physicians one form of diphtheria with, or even without, throat symptoms is known as nasal diphtheria. Though there is great danger of septic poisoning in this form, many of the cases are mild and of significance only on account of the danger of their non-recognition and the consequent imperilling of otherchildren. School epidemics have sometimes been started by pupils

who had recovered from attacks of diphtheria, excepting the persistence of a nasal discharge which was undoubtedly infectious. This rather anomalous form of diptheria is shown in the following history of a case which has lately been reported by a physician who is the secretary of one of the local boards of health.

"The patient, a boy of fourteen, had on the 20th what was called common sore throat, which improved in a few days, but on the 29th he was taken with severe sore throat, swelling of the left tonsil, which had a small light colored patch, but no membrane formed at all. The rest of the throat was inflamed. He had a slight cough with a little expectoration, nose bleed almost continually, and could not breathe through the nose. He continued to fail every day until the 8th of the following month, when he very suddenly died after being raised up. Until the day before his death he sat up most of the time.

Before the boy's sickness an older brother came home from Boston after recovering from diphtheria. Suspecting that my case might also be diphtheritic, I isolated the family."

The secretary of this board is entitled to much credit for promptly taking precautions to guard the public from the danger of infection from a case of this kind.

Diphtheria Studies at the Pasteur Institute.

The telegraphic news to our journals have told us the last few weeks that an important discovery has been made in the Pasteur Institute,—that it is nothing less than the finding of the specific diphtheria microbe. From Parisian papers just received, we gather that the discovery is not a new one, but a confirmation of earlier ones,—experimental work with the bacillus of diphtheria which has already been described by Klebs and Loeffler. Notwithstanding its prior discovery, the French investigators have done a good thing for the world, if they shall be able to satisfactorily demonstrate the truth of their claims. They claim to be able to show that the Loeffler bacillus is always present in the false membrane of diphtheria, and that it is the essential cause. Therefore they say that all false membrane which contains the bacillus is diphtheritic, and all which does not show the microbe, is not diphtheritic. Pure cultures of this microbe in veal broth, injected into animals, cause the characteristic symptoms of diphtheria.

The disease is not caused directly by the microbe, but by a noxious product or ptomaine which it secretes. Therefore, when the bacillus which has developed in the culture is destroyed or removed from it, the same symptoms are produced by the injection of the sterilized broth or bouillon. If thirty-five cubic centimetres of the sterilized broth is injected under the skin, the animal dies in forty-eight hours after having had all the symptoms of severe diphtheritic poisoning. If, however, the dose is smaller, the animal dies more slowly, but still with symptoms which show the disease to be identical with diphtheria; or it survives, and has the sequel of diphtheritic paralysis. While suffering from the paralysis, the animal sometimes lies extended in its cage, unable to move a limb, and sometimes dies from paralysis of the muscles of respiration.

This is the enthusiastic account which is given of the discovery in a French newspaper. If it is not overdrawn, the two young doctors MM. Roux and Yersin, pupils of Pasteur in the Institute, have done a work which will be an honor to themselves and to the new Institute.

Floors as Culture Grounds of Infection.

Several writers have called attention of late years to the possibility of the spaces or filling between badly constructed floors being the source of infection, and the experience of Emmerich, of Munich, in one instance seems to justify this idea. In a hospital at Amberg, in certain of the wards, pneumonia had been very prevalent for a long while. Dr. Emmerich was asked to give his opinion in regard to the cause. An examination of the hospital convinced him that the source of the trouble was in the sub-floor filling, and the finding of the assumed microbe of pneumonia in a sample of the filling which was taken from beneath the floor justified his opinion, to his own mind. The floor of the ward in which pneumonia had prevailed the most extensively was taken up and a new floor and new filling were laid down. Subsequently, pneumonia ceased absolutely in this ward, while it continued to find numerous victims in those other wards which had not been repaired.

Dr. Schaffer, a regimental surgeon of Vienna, calls attention to the ill-constructed floors of tenement houses, lodging houses, and saloons, especially of the laboring classes, as being the probable cause of a certain amount of preventable disease. The floors in some of these places are washed or sprinkled frequently, and the dirt between and beneath the flooring remains constantly damp, and an excellent soil for the growth of bacteria. His remedy is to impregnate the flooring and the floor filling, in houses of this class, with tar.

THE

SANITARY INSPECTOR.

VOL. 2, NO. 9. MARCH, 1889. 25 CENTS A YEAR.

Sanitary Notes.

We would call the attention of the members of the local boards of health to some of the public acts of the legislature of 1889, which have a bearing upon public health, particularly Chapters 227, 213, 285, 244, 237 and 235.

The annual meeting of the local boards of health for the purpose of choosing officers, and consulting in regard to the lines of necessary work for the season, should be held before the fifteenth day of May. We have one of the best local sanitary systems in the country, and each local board should take pride in holding at least its annual meetings promptly, and keeping up its full organization.

Nearly all the samples of water which are sent without waiting to communicate with this office, and to receive a bottle for transportation and directions for collecting the sample, are worthless, either on account of insufficient quantity of the sample, suspicion that the bottle or other vessel containing the sample has not been made chemically clean, or for other cause. Therefore, send a notification, when the circumstances will permit, before sending the sample.

The secretary has been authorized to send the Sanitary Inspector free in the future to all the members of the local boards of health. We would in this connection thank most sincerely the many members of the local boards who, during the time when the publication of the little journal was an experiment, have helped us to make it a success.

A case of varioloid was found in Readfield, Feb. 21, by Dr. Wright, the secretary of the local board of health of that town. The necessary precautions were taken and no other case has thus far shown itself.

This case illustrates how contagion will steal upon its victims, at times and in places where it is the least suspected. No small-pox infection had been known or suspected in the state for a year, until this young lady went to Portland by rail, returned the next day, and developed the disease thirteen days later.

We would earnestly urge upon the municipal officers of every town and upon the local boards of health not to neglect the matter of vaccination. Any town is liable at any time to be taken by surprise, by a visitation of small pox, and when this occurs in a town whose population has for some time neglected vaccination, the conditions are found favorable for a disasterous spreading of the disease.

In the course of the remarks of a believer in Christian science at a funeral recently, he repeated one of the axioms of their faith "there is no pain, no distress, no suffering." As he was going down the stairs he slipped, and, falling, struck with the upper half of his body right side up on the sharp end of the stone steps. As he rose to his feet, groaning in agony, a youngster shouted, amid the laughter of the crowd, "no pain, no distress, no suffering."

The Board of Health of the City of Boston disinfected 1,479 houses following contagious diseases in 1888, including a total of 3,527 rooms.

In Savannah, Ga., a Citizens' Sanitary Association has been formed, one of the purposes of which is to investigate violations of the sanitary laws and co-operate with the municipal health department.

In response to the requests which we are receiving from local boards of health on the return postal cards, we are sending out Circular No. 50, Contagious Diseases and Contagion, as rapidly as possible. The first edition of twenty thousand has been rapidly used up, and a still larger one is in preparation. The number of copies ordered by the different boards, has ranged from thirty to five hundred.

It should be borne in mind that the members of the local boards of health, hold office until their successors are appointed.

Supplement to Sanitary Inspector for March, 1889.

STATE BOARD OF HEALTH.

CIRCULAR NO. 52.

Chapter 227.

AN ACT in relation to Local Boards of Health, additional to chapter one hundred and twenty-three of the Public Laws of eighteen hundred and eighty-seven.

Be it enacted by the Senate and House of Representatives in Legislature assembled, as follows:

Section 1. If the municipal officers of any city or town shall fail to appoint a local board of health or to fill any vacancy in said board, in accordance with the provisions of section two of chapter one hundred and twenty-three of the public laws of eighteen hundred and eighty-seven, the secretary of the state board of health may in writing request such municipal officers to make such appointment, and if the municipal officer shall neglect or refuse to do so for a period of thirty days after receiving such written request, the state board of health may appoint such local board of health, or fill any vacancy thereon.

Section 2. It shall be the duty of the secretary or health officer of each local board of health in this state, who shall have knowledge of any violation of the provisions of section thirteen, of chapter one hundred and twenty-three of the public laws of eighteen hundred and eighty-seven, occurring within the jurisdiction of such local board of health, to forthwith give notice thereof in writing and of all facts within his knowledge in relation thereto, to the county attorney of the county in which such violation has occurred and said county attorney shall thereupon examine into the case and take such action in the matter as the circumstances of the case require.

(Approved February 26, 1889.)

Chapter 213.

AN ACT to provide against the danger of the spread of Small Pox from Paper Mills.

Be it enacted by the Senate and House of Representatives in Legislature assembled, as follows:

Section 1. No owner, agent, or superintendent of any paper mill where domestic or foreign rags are used in the manufacturing of paper, shall hire or admit any person to work in or about said mill who has not been successfully vaccinated or re-vaccinated within two years, or to the satisfaction of the local board of health.

Section 2. No person shall work in or about any paper mill where rags are used, who has not been successfully vaccinated or re-vaccinated within two years, or to the satisfaction of the local board of health.

Section 3. The owner, agent and superintendent in every paper mill where rags are used shall every year, in the months of February and September, make out and deliver to the local board of health, a list containing the names, ages, kind of work, and places of residence of all persons emyloyed in or about said mill.

Section 4. In the months of March and October, annually, each and every person who is employed in a paper mill, shall be examined by the local board of health as to whether he or she is successfully and sufficiently protected by vaccination, and the local board of health shall in all cases be the judges of the sufficiency of the protection by vaccination.

Section 5. Any person who shall volate any of the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof shall be subject to a fine of not more than fifty dollars.

Section 6. It shall be the duty of the local boards of health within their respective jurisdictions and of the state board of health, to enforce this act as far as comes within their power, and when said state board of health knows or has reason to believe that any penalty or forfeiture has been incurred by reason of neglect to comply with said act, it shall, at its discretion, give notice thereof, in writing, to the county attorney of the county in which said penalty or forfeiture has occurred, and upon receipt of such notice the county attorney shall prosecute the defaulting person or persons.

(Approved February 23, 1889.)

The epidemic of yellow fever in this country in 1878 cost 25,000 lives and $200,000,000, as Dr. W. E. Forest stated at a late meeting of the Academy of Medicine, New York; and he fears the figures for the coming year will equal those of last year.

In the South of Russia a committee of the Caspian Sea fishing firms offers a prize of about $3,000 in our money for the best pamphlet in English, French, German, Russian, or Latin on the nature of the poison which is sometimes formed in raw salted fish.

Speaking of the necessity of isolating cases of diphtheria Dr. Jacobi says: If the rich would but remember that their children will be affected through the many links between them and the poor (servants, messengers, schools, dresses brought home from the tailor or seamstress, or purchased in the stylish and expensive establishments which give out work to tenement working-people), their very egotism would compel them to do in the public interest what humanity does not urge them to perform.

A Glasgow tenant has lately recovered £100 from his landlord on account of the loss of his only child from diphtheria, caused by bad drainage. The proprietor had been informed of the bad condition of the house and previously notified to remedy the evil, but he neglected to do so until the disease appeared.

Last fall a death occurred from diphtheria, in the town of B. in this State. Three months later a lady from the infected house went to the town of W. on a visit. Shortly after her arrival, three cases of diphtheria broke out in the family where she visited. The secretary of the local board of health of W. says that, disinfection was supposed to have been carried out faithfully after the death in the town of B., but that unless the disease in his town arose *de novo*, it must have been brought by the visitor. This suggests that some article was overlooked in the process of disinfection.

Sir Edwin Chadwick.

The order of knighthood lately conferred upon the much loved and venerable Edwin Chadwick, is a well deserved honor. His labors of many years to improve the sanitary condition of the laboring classes of England have endeared him to the hearts of all in every land, who know him or of him.

Carelessness.

In the town of———a child died of diphtheria. The physician sent a notification by mail to the secretary of the local board of health and it went astray and was not received until five days after the death of the child. Meanwhile a photographer called and made a picture of the deceased, and a public funeral was held. The mother of the child arrived from Massachusetts the day before its death, and five days later came down with diphtheria in a mild form. The local board took measures to restrict the carelessness as soon as uncle Sam gave up the letter.

Report Promptly.

Sometimes notifications of outbreaks of the infectious diseases come to this office a week or two after the outbreak. This delay is sometimes the fault of the local board, sometimes that of the attending physician. The secretary of one local board says the physicians usnally report cases not until the end of the year. This kind of notification does not meet the requirements of the law, and is worthless, of course, from a preventive point of view. Why is notification required? That the local boards may know promptly when and where cases of the dangerous diseases occur, and be assured that measures are taken to guard against the spread of infection; and that the State Board, may at all times, be informed of the occurrence of outbreaks in the towns, and of the extent of their prevalence. For these purposes, the notifications must be made promptly.

Arsenic in Fabrics.

The London Chemical News states that Mr. A. W. Stokes has examined a hundred samples of imitation Indian muslins and cretonnes, and found that twenty-three per cent. contained arsenic in appreciable quantities, the highest proportion 2.1 grains of arsenic per square yard. The colors in which arsenic was principally present were terra-cotta reds and greenish browns. Of the wall papers submitted to Mr. Stokes by the manufacturers, ten per cent. were found to contain arsenic. Thirty other articles of household use, such as plushes, velvets, carpets, mats, silks, etc., were examined, and in only one sample—a little flax mat of green color—was arsenic found.—*Science.*

A case of poisoning, probably due to the presence of arsenic in the coloring matter of yarn is communicated in the annual report of the secretary of one of the local boards of health.

"A case of poisoning came under my observation which resulted from wearing a muffler made of Germantown yarn over the mouth. The muffler was bordered with green and had clouded green ends. The symptoms experienced were nausea and bitterness in the mouth, which caused a good deal of spitting for more than twenty-four hours. After the green was taken off the scarf and the brown part of it was washed, it turned half a wash tub full of water green. I think the wearing of such colors should be avoided."

New Laws.

We present, in this issue, on a supplemental sheet, two short acts which were passed by the Legislature which has lately adjourned. They were presented to the Legislature with the recommendation of the State Board of Health, and we feel sure they will commend themselves to the State. One of these laws, "An Act to provide against the danger of the spread of Small-pox from Paper Mills," is shown to be needed by the somewhat frequent and sometimes disastrous outbreaks of small-pox which have their origin in infected rags. The other law, "An Act in relation to Local Boards of Health, additional to Chapter one hundred and twenty-three of the Public Laws of eighteen hundred and eighty-seven," consists of two sections. The need of section one arises from the fact that there are a few towns left in the State whose municipal officers refuse or neglect to appoint a board of health, and in a considerable number of towns re-appointments to fill vacancies, are not made.

Section two is needed, not because there is a general delinquency on the part of physicians to send in their notifications promptly, but because there are a few who steadily and wilfully ignore the law, in spite of reminders. To the honor of the profession, the majority of the physicians of the State have shown a ready willingness to co-operate in restricting the spread of infectious and contagious diseases, and it is a pleasure for the State Board to return a grateful acknowledgement for this co-operation; but of the few who are not willing to do so simple and easy an act, to save the public from impending danger, we are sure this public will express the same sentiment, which a member of the Judicary Committee spoke, and which was echoed by the other members: "The physician who re-

fuses to report cases of the infectious diseases ought to be prosecuted."

Vital Statistics.

The good State of Maine still stands alone in the sisterhood of New England States with no provision whatever for the collection and recording of vital statistics. And yet public health officers, physicians, local historians, political economists, have hundreds of questions not trivial or unimportant which can be answered only by means of the data which a record of births, marriages, and deaths would furnish. This long continued negligence by the State of Maine of a work now held to be of very great value by almost all modern state and national governments, has caused the finger of depreciation to be pointed at us. Not simply to remove the stigma from our state, but because there is a strong need of this work, three independent moves were made to get a vital statistics bill ready for the legislature which has just gone home,—by the State Board of Health, by the Maine Genealogical Society, and by F. W. Hovey, Esq., of Pittsfield, member of the House. Curiously, each had made the New Hampshire law the basis of its proposed bill. The bill which was presented to the Legislature needed but very slight changes to meet the approval of all who were interested in the matter, and the result was,—we are grateful to the Committee which had it in charge for referring it to the next Legislature.

About Small-Pox.

We would again remind local boards of health, that if a case of small-pox is known or suspected to be in your town, telegraph the notification at once to the State Board. If you wait two or three days to verify the diagnosis, and then send *by mail* to Boston or Portland, for vaccine virus your dilatoriness will perhaps lay the foundation for a good sized epidemic. In outbreaks of this disease there is almost invariably a single first case, and if during the first two or three days of this case you can get in your vaccination on all who have been exposed, and make it take, you are master of the situation. Therefore, if there is ever a time when you are bound to come out ahead, it is when you are timed against a case of small-pox or a suspected case. If, unfortunately, you are not notified in time, still follow the same rule, to vaccinate all persons

who have been exposed as soon as possible, even up to the time when the eruption shows.

Remember that a small quantity of fresh vaccine virus is constantly kept on hand by the State Board for the use of local boards in an emergency, but not to supply general orders.

Imprudent.

We were lately told by a gentleman, who had been on a visit to Massachusetts, of a sad case which illustrates how thoughtlessly parents will sometimes invite their children to their death. Two children lay dead of diphtheria in Malden, and the parents sent to No. Abbington for their third and only remaining child, a promising young man, a clerk in a drug store, to come home to the funeral. He went home, took the disease, and died. We admire the courageous impulse with which a young man hurls himself into the sea to save a drowning brother or sister, and have no words of disapproval for the parent who permits him to do so, especially if he can swim. But to call a child to his death, as in the instance above,—we have no words of condemnation for the stricken parents, but there ought to be a strong and healthy public sentiment that would hold back a parent or a child from so rash an act. Diphtheria is a disease which is liable in any case to be terrible in its malignity, against which we have no protection, only to keep away from it. The young man, if he were newly vaccinated might have faced smallpox with impunity, but the young person, especially the child, who comes within the infected area of diphtheria, takes his life in his hands.

A Prize Offered.

"John G. Borden, of New York, who spends his winters in Florida, offers a prize of $1,000 to the Florida city which shall, on July 1st, 1889, present the most cleanly appearance."—*The Sanitary News*

A larger prize than this is offered every year to almost every town in the state of Maine. Some of the towns have drawn the prize which is theirs for the taking, or received it in part; others have scarcely moved a finger for it.

In every town there is more or less sickness which could be prevented by measures which might be applied economically, and this unprevented sickness sweeps away lives which are worth a

certain sum in cash, and whether lives are lost or not, time is lost, and money is lost, in various ways as the result of the illness. The average value to the state, or to the town, of a human life at that age when it is the most liable to be cut off by typhoid fever is at least $1,000. Therefore, if there is any truth in the old maxim that a penny saved is a penny earned, in saving a single life during its productive period, a town draws a prize equal to that which Mr. Borden offers. But this is not all. For each death from preventable sickness there are calculated to be from ten to twenty persons constantly sick. During the sickness of these patients just so much productive capital is lost to the town if they belong to the working ages; but whether they do or not, the aggregate cost is very great, reckoned in expenditure of time for attendance, and in money for medical services, medicines, extra help, etc. By completing the calculation which has been begun and multiplying the amount by the number of deaths which occur from preventable causes in a given town, the amount of the prize is found which is offered for reasonably good work which may be done (as it must be done in the competing Florida towns) by the co-operation of the people generally with the health authorities, in keeping the homes, individually and collectively, clean, and in limiting just as far as possible, outbreaks of diphtheria, typhoid fever, scarlet fever, and the other infectious diseases to their first cases.

Emergencies.—II.

We shall here give brief directions for the treatment of poisoning by some of the more common poisons.

Arsenic. Among the common arsenical preparations are Paris green, Scheele's greene, rat poison and fly paper. Give on the instant large quantities of milk, egg or flour and water, and an emetic of mustard and warm water, or salt and water, according to the directions in the last number of the *Sanitary Inspector*. Meanwhile obtain from the drug store as speedily as possible, dialysed iron, and give it freely in tablespoonful doses, as an antidote.

Corrosive Sublimate. This is sometimes found in the household as bug poison, and is also used as a disinfectant. Pulverized corrosive sublimate is a heavy white powder, which if carelessly left around might be mistaken for "salts." It should never be permitted to remain in the house in a paper, or in any form without distinct labelling and placing where careless or irresponsible per-

sons cannot get it. Treat as for arsenical poisoning, giving albuminous substances like white of eggs, very freely.

Carbolic Acid or Creasote. These are a very dangerous and rapidly acting poisons. Give plentifully beaten raw eggs and water or milk, then produce vomiting as soon as possible, and keep it up till the stomach is well washed out and the vomited matter ceases to smell of carbolic acid. Later, give oil (sweet or linseed) or magnesia if at hand, or a mixture of both together.

Phosphorous. Phosphorous poisoning may occur in children from their sucking or eating matches. Give an emetic with large dose of warm water and flour, or magnesia, *but do not give oils or fatty substances.*

Opium. (*Laudanum, morphine. paregoric, soothing syrups.*) Excite vomiting as soon as possidle. As an antidote, give very strong tea or coffee without milk. The patient must not be permitted to indulge in his tendency to sleep, but must be roused by sharp slapping on the naked skin with the sole of a slipper, or something else, or by walking about. If the breathing should fall below ten a minute, artificial breathing must be kept up by the plan which is given in the illustrated circular, *Treatment of the Drowned.*

Chloral. Treat as for opium poisoning until the doctor comes, being careful to keep up the bodily warmth with warm blankets and bottles of hot water.

Strychnine. It is intensely bitter. Give quickly a mustard emetic, and, as an antidote, bromide or potassium or hydrate of chloral, to a adult, thirty grains of the former, or twenty of the latter, or both.

Aconite. Produce vomiting quickly, and stimulate freely with strong coffee or alcholics. Keep up the temperature, and do not permit the patient to rise, for there is great danger of sudden heart failure.

Words of Cheer.

We take pleasure in acknowledging our thanks to many friends, who have written kind words. Expressions of appreciation like the following are encouraging and assure us that the *Sanitary Inspector* is doing good.

One of the leading physicians in the State sends one dollar to help the Sanitray Inspector, and says: "Will send again when you call. Go ahead with your good work."

The secretary of one of the local boards of health sends one dollar and the wish: "Success to the little monthly visitor. I wish it could be in every *reading* and *thinking* family in the State."

A clergyman writes: "The price is certainly only nominal and bears no comparison with the value of the Inspector. I greatly prize the copies which have been sent to me."

The President of one of our colleges writes: "I regard the publication with favor, and wish each copy to do all the good possible." (Therefore, a suggestion is made).

The municipal board of one of the cities outside of our State says: "We regard it as the best thing of the kind published, and the only one that we read all through every month."

A physician in remitting one dollar, asks us to notify him when to remit again as "I want it to come right along; I do not want to do without it."

The Cost of It.

The cost of the epidemic to San Francisco, consequent upon the neglect of vaccination which led to it, and the public expense involved to meet the emergency, is estimated by Dr. Herrick to have been nearly $50,000. In addition to this the steamship companies declare their extra expenses in quarantine and otherwise, during the period of May 1st, 1887, to June 30th, 1888, to amount to about $200,000. 'The total loss to the city and to the steamship companies considerably exceeds $300,000.' Such epidemics and such expenses are the legitimate fruit of purblind negligence of timely sanitary measures.—*The Sanitarian.*

Experiments with Tuberculous Milk.

Bollinger tested the milk of twenty tuberculous cows as to its virulence, by intra-peritoneal injection of it into guinea pigs, and received positive evidence of its infectiousness in 55 per cent. of all the inoculations. In five cases of advanced tuberculosis, the milk was infectious four times, in six cases in which the tuberculosis of the cow was of a medium grade, he got four positive and two negative results, while in nine cases of tuberculosis in the earlier stages, the inoculations gave a positive result three times and a negative result six times.

The danger of infection is particularly great when the udder itself is tuberculous and this, according to our present experience,

is not so very seldom the case. Bang was able to find in the dairy establishments of Copenhagen, within a few months, not less than twenty-seven cases of advanced tuberculosis of the udder. In one of these cases in which the milk presented an entirely normal appearance, the microscope showed that it swarmed with the bacilli of tuberculosis, so that some of the cover-glass preparations contained thousands, and so that about two hundred could be counted in each field of view.—*Centralblatt für allge. Gesundh.*

Management of Infectious Diseases in Newport, R. I.

In the January issue we referred to "a serious epidemic of diphtheria" which we were informed had prevailed in Newport, R. I., and of Dr. which Stewart spoke before the Sanitary Association. Since then, through the kindness of H. E. Turner, Jr., Executive Officer of the Board of Health for that city, we learn that not more than ten cases were reported to the board during any month from May to January last. The law requires immediate reports of all contagious diseases, and it is well complied with. At once on report being received, the house is placarded, the premises are examined, and, if necessary, disinfected. No public funeral of persons dying of infectious diseases is allowed.

We also received from Mr. Turner the following interesting history of cases; In August a child died from membranous tonsilitis as the physician's certificates stated. This peculiar cause of death, added to the fact that just one week before, another child had died in the same house from membranous croup, caused me to communicate the facts to the President of the board, who, with the Secretary, immediately went to the house and found two more children sick with diphtheria. This, with the further fact, that within seven weeks, seven children including the first two mentioned, had died from acute throat diseases within an air line of two hundred feet, as follows:

June 27th, membranous croup, two years and six months;

July 5th, membranous croup, one year (brother of the first);

July 9th, tonsilitis, five years and three months;

July 14th, scrofulosis—acute bronchitis, one year five months (a sister of the third case.);

July 20th, tonsilitis,—meningitis, one year and four months;

Aug. 4th, membranous croup, one year and eleven months;

Aug. 11th, membranous tonsilitis, eight years (a sister of the

next preceding); caused the board to order that no public funerals should take place when any person should die from any of the acute throat diseases, except through a special permission from the president or secretary, because, if these children died from the causes given, it is evident that all were contagious. Besides these seven deaths there were six others sick so far as known in the same families. All these houses and premises were disinfected and no more cases occurred.

Influence of Sewerage on Diphtheria.

At a meeting of the International Medical Congress which was held last year in Washington, Dr. Earle of Chicago read a paper which gave the results of his investigations into "The influence of sewerage and water pollution on the prevalence and severity of diphtheria." His enquiries were made within the states and territories of Minnesota, Dakota, Montana, Wyoming, Kansas, Utah, Idaho and California, and from the results of it he draws the following conclusions:

First. Diphtheria occurs in the mountains and prairies of the great new Northwest with the same malignancy as in cities.

Second. Diphtheria takes place with equal virulence in vicinities remote from sewers.

Third. Diphtheria, once present, the inhabitants living in damp sod houses, or over cellars containing decomposing vegetables, or in proximity to manure heaps, or poorly-constructed sewers seem to be in surroundings which increase the severity of the malady.

Fourth. The fact is again demonstrated, although developed incidentally, that the contagious element may be carried or transported thousands of miles in a manner difficult to understand.

Fifth. Testimony is abundant that the poison may be transported by means of cars and steamers. This fact calls for increasing watchfulness and more efficient means of disinfection than have been heretofore practiced by our transportation companies.

Sixth. To such a degree is this terrible disease contagious,—a few in our profession, however, declining to acknowledge it, and the majority of the people persistently refusing to isolate their children,—it appears to me that the only method by which we can prevent the spread of diphtheria is by the enactment of laws compelling the people to assume some responsibility in regard to contagious diseases.

THE

SANITARY INSPECTOR.

VOL. 2. NO. 10. APRIL, 1889. 25 CENTS A YEAR.

Sanitary Notes.

A few towns, unmindful of the present provision of the law that the members of the local board of health shall be appointed by the municipal officers have elected them at the annual town meeting. A board thus elected is not a legal board and their election does not absolve the municipal officers from their duty. They may, however, legalize such a board by appointing the same persons if they see fit to do so.

It gives us much pleasure to find, from the notifications which are rapidly coming in from the municipal officers, that so many of the old members of the local boards, who we know have taken an active and intelligent interest in their local sanitary work, have been re-appointed.

As the law does not provide that the members of the local boards of health shall take the oath of office, they are not legally disqualified by their neglect to do so.

Physicians should bear in mind that if they go outside their own town to treat cases of infectious diseases they must report to the local board of the town in which the patient resides.

Each local board should carefully keep its records in a book specially for that purpose. The book should be bought at the expense of the town and delivered by the secretary, at the expiration of his term of office, to his successor.

Two samples of water in jugs came lately for analysis. Some fragments of straw of pretty good length were found floating in one, and an old corn cob stopper swam in the other. Time is never wasted on samples so carelessly put up. We repeat, notify us before you send, and await instructions.

The State Board of Health of Iowa and of Michigan, and some of the municipal boards in various places, have passed resolves in favor of carrying out the same sanitary precautions with cases of membranous croup, as are required in cases of diphtheria. In the forthcoming Annual Report there will be found something upon the question of the contagiousness of membranous croup and its identity with diphtheria.

On the day of judgment God will perhaps pardon you for starving your children when bread was so dear; but if he should charge you with *stinting them in his free air*, what answer shall you make? —*Jean Paul Richter.*

If Life Insurance Medical Examiners, instead of hammering at a man's chest to learn if he has a tendency to any disease, an exchange aptly says, would enquire if he has a cess-pool leaking into his well, or an untrapped pipe beneath his closet, they might save some losses to their companies and benefit the public as educators.

The Florida legislature which was convened by the governor awhile ago for the sole purpose of establishing a State Board of Health, passed a bill providing for such a board, giving it ample powers and funds to the amount of $50,000.

Dr. Durgin, Chairman of the Board of Health of Boston says: "Diphtheria, like small-pox, is a contagious disease, and will spread from person to person and from things which have become infected by the sick person. Being without the advantage of vaccination as in small-pox, it requires at least thorough isolation, disinfection, and the quarantine of exposed or infected persons."

During 1888 about one-third of the cases of diphtheria which were reported in the city of Boston died. The number of deaths was 470. In last year's yellow fever epidemic in Florida only 350 deaths occurred in about 4,000 cases. With diphtheria always with us, is it not about time to wake up to an appreciation of the fact that our northern scourge is worse than the southern one?

Typhoid fever is very prevalent in France, and in view of this fact the committee of public hygiene have lately passed the follow-

ing resolve :—1st. That conditions for the propagation of typhoid fever and means whereby its progress may be stayed are now so well known that by proper precautions it could be easily stamped out, and the country saved 20,000 lives every year. 2nd. That the clearing of France of typhoid fever is of national interest, and ought to be at once undertaken by the State.

The Secretary of Sumner reports that last year one man lost five or six calves from what seemed like congestion of the lungs and pleura. Symptoms of this kind in calves or lambs, especially if several die with the same symptoms, should cause suspicion of "lung-worm disease." A short description of this trouble is given in Contagious and Parasitic Diseases of Animals," issued by the State Board.

Minnesota has one of the most efficient State and local sanitary organizations in the country, and, like Maine, has the same legislative provisions regarding the reporting of infectious diseases. Dr. Hewitt, the Secretary of the State Board, says: "This legislation has met with universal approval, and has been the means of 'stamping out' hundreds of incipient outbreaks of diphtheria and scarlatina. Some of the township boards are thoroughly efficient in this work, and it is not uncommon for them to hold adjacent boards to a strict accountability in this respect."

The ability of health authorities to comply with the compact, and also to apply timely isolation and disinfection, (the only remedies offering a rational hope of extinguishing the first spark of pestilence) rests entirely upon the integrity of the physicians of a community in reporting immediately any case presenting symptoms, to the professional eye, suspicious of a pestilential disease.—*Dr. Holt, ex-Pres. of La. State Board of Health.*

Lead Epidemics.

Cases of "lead epidemics" have been reported quite often in the late English journals. The lead poisoning in most of these has been due to the contamination of the public water supplies by the action of the water upon lead pipe. In most of these cases the solvent action of the water upon the lead has been due to the softness of the water and a slight acidity from some temporary cause. The last epidemic of this kind was reported from Bradford where thirty cases of lead poisoning were reported.

There is a Penalty.

The secretary of one of our local boards of health writes that the infectious diseases are not reported by the physician in his town and that they will not be until there is a penalty attached to the law as in other states. As some other local boards may possibly be laboring under the same error we would say that, though in section 13 of chapter 123 of the Laws of 1887 there is no penalty expressed, there is a penalty section, Sect. 26, which provides a maximum penalty for the wilful violation of any of the provisions of the act, and we would further in this connection call the attention of local boards of health and physicians to the new act which makes it the duty of the secretary of each local board of health to report to the county attorney all failures on the part of physicians to report infectious diseases.

A Tuberculous Dog.

The last number of the journal of Comparative Medicine and Surgery narrates the case of a poodle, the property of a lady who had recently died of consumption. The dog had acquired the habit of eating the tuberculosis sputa. A post mortem examination revealed tuberculosis of both lungs, and, after staining, the bacilli were found in large numbers under the microscope.

Diphtheria from an Infectious Nurse.

In Lynn, Mass., a child was attacked with diphtheria. Two days later a second child was taken ill with the disease and in rapid succession the grandmother of the children and her sister, the parents of the child, and finally the grandfather, was prostrated with the disease. The latter and the parents of the children recovered. All these persons were among the most respectable families in the city and the premises were in good sanitary condition. An investigation followed, and it was found that the disease was, in all probability, brought from Boston by a professional nurse who came here as a wet nurse for the child. It was learned that the house whence the nurse was procured contained a case of malignant diphtheria at the time.

Hydrophobia in Paris.

From a recent report of Dr. Dujardin-Beaumetz on Hydrophobia in Paris for the year 1887 and 1888, we learn that, among the per-

sons who were bitten in the former year by rabid dogs, and who were not subjected to Pasteur's treatment 15.9 per cent. died, while of those who received treatment only 1.14 per cent. died. In 1888, of the untreated 13.33 per cent. died, and of those who were treated by Pasteur, only 1.19 per cent. were lost. According to these figures the treatment lowered the death-rate from the bites of rabid dogs from a little less than 15 per cent. to slightly more than 1 per cent. From other sources we learn that the whole number of persons inoculated in the Pasteur Institute in 1887 was 2,682 with a death-rate of 1.34 per cent., and the number treated during the first six months of 1888 was 914 with a mortality of .77 per cent.

Do Not Wait for an Epidemic.

A mistaken idea prevails that an epidemic must prevail before there is need for any sanitary precautions, when the truth is, such epidemics are always evidence that these precautions have been fatally neglected. Moreover, the greatest mortality does not result from epidemics, but from deaths constantly occurring in the course of such diseases as are admitted to be wholly preventable, and result most frequently from the unsanitary conditions of neglected homes, and, in the absence of inspection and preventive means, extend throughout communities. Such diseases as diphtheria, scarlet fever, typhoid, and others of this class, are constantly carrying off their victims, and, in the aggregate, far surpass the deaths in epidemics. These diseases, if they do not result directly from ill-kept homes, find a lodgment, and their virulence and extent is increased. To such a degree has sanitary knowledge been disseminated, and the facilities for gaining such knowledge are so ample, that it is not a Utopian dream to suppose every individual a sanitarian and every home a sanitarium.—*The Sanitary News.*

About Dirty Neighbors.

Dr. Russell, the able Medical Officer of Health of Glasgow, says: The ultimate cause of the existence of communicability in disease is, I believe, to enforce the golden rule upon us in reference to the physical well-being of mankind. The practical question is,—"What am I to do with my dirty neighbor?" We must bring to the solution of it a little common sense and ordinary business principles as well as philosophy. There must be power to prosecute and punish dirty neighbors for over-crowding and other

nuisances which affect the well-being of neighborhoods. The principle must be not to do anything for them, but make them do it for themselves, and bear expense, as they reap the benefits. In this way a process of education would be carried on.

An Explanation.

It is gratifying that the weekly reports of contagious diseases in this State have for some time shown that the more dangerous infective diseases have had a very slight prevalence. A week or two ago one of the daily papers noting this, and, learning at the same time that "measles, mumps and similar diseases" are quite prevalent in some places, asks for an explanation of the discrepancy. It is simply this: The law does not provide that mumps and measles shall be reported to the local boards, thence to the State Board. The local boards have, however, used their influence in many cases to prevent the spread of these milder infectious diseases, and in many other cases public opinion against the needless spread of contagion ought to have come to the support of the local boards in this work. As regards measles and mumps we would say that these two diseases have been quite widely prevalent during the past year, and this unusual prevalence has been confined by no means to our State.

A Word to Parents.

It may be surmised that you, being an American citizen, are imbued with some notions of personal liberty, therefore, whoever you are, the inquiry will not be inapplicable: "Has it ever occurred to you that it might be better for all of us, yourself included, if there were a little more lively appreciation of both sides of this personal liberty question as applied to infectious diseases?"

Your child, we will suppose, has diphtheria, measles, mumps, whooping cough, or other infectious disease. You understand that it is your right to send your child to the public school. You do so, if it is a light form of the disease, or if it is not, you return him to the school just as soon as you can without personal risk to your child, regardless of whether such an act may be the cause of illness for a score or so of other children, perhaps the death of one or two, perhaps the breaking up of the whole school.

The other side of the personal liberty question is that your neighbors also have a right to send their children to school and to de-

mand that you shall not endanger them by thoughtlessly or wilfully introducing infection there. Do you remember that, during the war of the rebellion, a horrible story was told of a southern physician who plotted to introduce yellow fever into northern towns, and with what loathing the would-be perpetrator of the fiendish act was regarded? And yet,—think a moment,—when you send infection among the innocent little ones of your neighbor's household, is it a Christian act? Does not such an act put you into an uncomfortably close relationship with that southern plotter?

But that war rumor was not a true story. May my supposition of your wrong act be all untrue. Let us all avoid if possible thrusting an infectious disease upon our neighbor or his children, and on the other hand demand that he shall take reasonable care not to spread infection to our homes or to other places whence it may reach our homes. Our social life binds us together with indissoluble bonds. What is for the good of all is best for the individual in the long run. Remember this as a consolation when, unfortunately, your home is infected, and duty calls for slight personal sacrifices.

Emergencies; III.

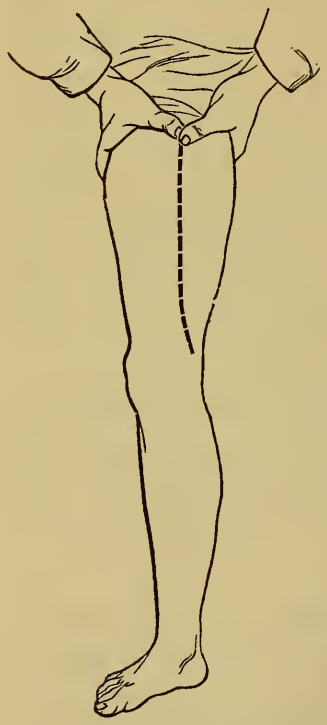
Some years ago it was reported that, in a lumber camp above Patten, a man accidently received a cut which severed the main artery of his arm. Forty or fifty men stood around in helpless agony while the poor man bled to death. In any event, with the opening of an artery of such a size, the chances of the unfortunate man without intelligent treatment would not be promising, but with one man in the crew with presence of mind and knowledge which can be gained from the careful reading of this paper, this man's life might probably have been saved until the doctor could have come even if it were nesessary to drive many miles to fetch him.

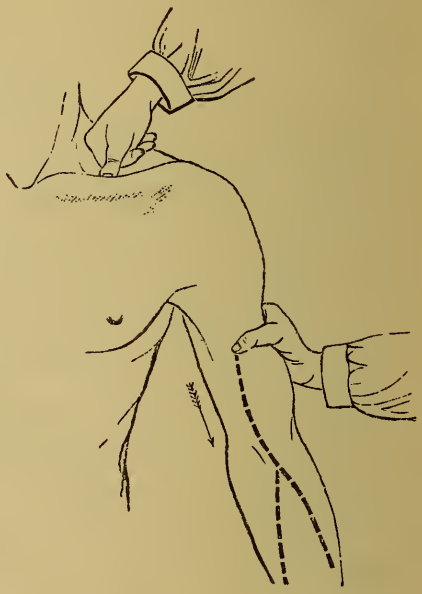
In cases of hemorrhage as the result of wounds the bleeding may be either *arterial*, bright scarlet, coming in jets corresponding with the pulsation of the heart, or it may be *venous*, dark purple in color and flowing steadily, or it may be a mixture of arterial and venous blood.

Just as when a leak occurs in a water pipe, it is necessary to know which way the water runs before we can undertake to shut off the flow, so in cases of bleeding from cuts, it is necessary to know the direction of the blood in the wounded blood-vessels before we

can intelligently act in stopping the bleeding. The blood in the arteries is pumped from the heart; that in the veins is coursing back in the direction of the heart; therefore as a general rule, when the bleeding is *arterial*, pressure should be made on the heart side of the cut, and when it is *venous*, it should be applied on the side from the heart. Bleeding from the veins is more easily checked than bleeding from the arteries, and may usually be stopped by pressure with the fingers or with a clean cloth folded and pressed over the wound from the side from which the oozing comes.

In arterial hemorrhage we have to do with blood-vessels more elastic and less easily closed, and situated usually more deeply. Our aim should be therefore, in this kind of bleeding, to so direct our pressure that the artery may be brought between it and the underlying bone. Clasping the wounded limb in the two hands, deep and firm pressure should be made with one or both thumbs placed above the wound (on the heart side). Pressure made in this way, in several places above the cut, will discover some point where it will check the flow. When this point is found steady pressure should be kept up until the doctor comes. The course of the principal artery in the leg, and in the arm, over which pressure should be shown in the accompanying cuts.





If pressure made near the cut does not control the bleeding there is a point for both the upper and the lower limb where the flow through the wounded artery may be controlled with certainty. For the upper limb this point is near the middle of the collar bone and behind it. Here the main artery of the arm, as it rises out of the chest, passes over the first rib and here its pulsation may be felt when the thumb is pressed downward and back of the collar bone. When this point is found the artery should be pressed firmly between the thumb and the upper rib.

For the lower limb, the point of control is the hollow just below the groin, two-thirds of the way from the forward point of the hip bone to the middle line of the body. Here the pulsation of the artery may be felt, and the artery may be pressed between the thumb and the pelvic bone, as it rises from the body to pass down the leg. In an experimental study of ten minutes while taking a bath, these points may be learned so that we may with almost absolute certainty undertake to control the bleeding until the doctor arrives.

When you do not succeed in finding the right point for pressure, you may stuff a clean cloth into the wound or make pressure with the hand at any place around the cut where it seems to do good. As auxillary measures for arresting bleeding from wounds, the wounded part should be elevated as much as possible. Do not however, fill the wound with flour or any other substance which the doctor will be compelled to clean out carefully and sometimes with much difficulty before he can do anything else. We are under obligations to P. Blakiston, Son & Co., for permission to use these cuts which are from a very excellent little work on "Accidents and Emergencies" by Dr. Dulles.

A Layman on Ventilation.

An intelligent farmer called upon us to enter his name upon our subscription list, and, being of a social turn of mind, sat down for a little chat. One incident that he related was so forcibly put, and its like is so frequently seen, that we cannot forbear relating it: Said he,—"How little people in general know about the worth of pure air. Why, to illustrate, a neighbor of mine has a baby that has been ill for several weeks. It is kept in a small room heated by a stove, and the mother is so afraid that it will take cold that she has battened up all the crevices around the windows, and has

hung a quilt at the door so that not a breath of air can enter. The little one is kept in this prison of hot, foul air, and is being slowly poisoned to death. The girl told me as I came by to-day, that they were afraid the baby had taken a little more cold, as it was not quite so well. Of course its only a question of days that the baby can hold out against this kind of treatment. Its life is being slowly taken by the loving-kindness of parents ignorant of Nature's requirements."

We have seen this condition of affairs so often that we know it is no over-drawn account. Scores of children are every year sacrificed by being deprived of a sufficient quantity of pure air to keep the blood in a healthy condition, and the general functions of the system in vigorous activity.—*The Sanitary Volunteer.*

Notification of Infectious Diseases.

If a health authority is to take any effectual measures to prevent the spread of infection it is of the first importance that it should know, and know promptly, of the exact locality of each case as it arises within its district. The whole question is on an exact par with the means taken to prevent and arrest fires. What the first few minutes are in a case of a fire, so the first cases of such diseases as small-pox, typhus, and scarlet fever are in relation to epidemics in the ease with which they may be stayed and arrested in their spread compared with the difficulty experienced when once they have made any considerable headway.—*Public Health, London.*

Water Supply and Typhoid Fever.

According to the figures in the last number of the *Annals of Hygiene* the typhoid fever deaths in each 100,000 of population are for New York 23.5; Baltimore, 32. 2; Boston, 40. 9; Chicago, 45. 1; Philadelphia, 76. 5. The death rate from typhoid fever in Philadelphia is shown to be higher than in any other of these cities, and according to the *Annals* it has a higher typhoid death rate than any other city in the world. In the same issue an interesting graphic representation is given of how the Schuylkill river which supplies the city with drinking water, receives the sewage of the city of Reading with a population of 50,000; Phoenixville with 6,682; Pottstown, over 5,000; Norristown, 13,000; Manayunk, with 20,000; besides the refuse from manufactories, various other sources of pollution, and the soakage from Laurel Hill Cemetery on the banks of the river with a silent population of 80,000.

Somebody's Fault.

A local board reported some time ago an outbreak of scarlet fever as follows: "The first case was a little child two years old whose parents thought it might have scarlet fever, and called Dr. ——who said it was nothing but a rash common with children. After this other children were allowed to visit the sick one and soon the disease broke out in the school, and nineteen children in the district had the disease. Another doctor was then called who pronounced the disease scarlet fever. The board of health was notified and we closed the school and quarantined the houses but the disease had got such headway before we knew its nature that thirty-two cases have been reported in all. The disease has been in a light form, excepting with five children who had a relapse and were very sick."

The fault was with the first physician, who, if he was not absolutely sure the case was not one of scarlet fever, should have cautioned the parents and advised isolation until he was sure it was not infectious. When "rash" is reported the local boards and the public have good reason to suspect scarlet fever, and when "scarlet rash" or "canker rash" are mentioned it should be remembered that if anything is meant scarlet fever is meant. In scarlet fever there is sometimes a rash with slight or almost no throat symptoms, sometimes throat symptoms with little or no rash, sometimes, and more frequently, both rash and inflammation of throat. Sometimes the fever is high, sometimes very slight, but whether called scarlet rash, canker rash, scarlatina, or scarlet fever, it is scarlet fever always, and should be so called that no one may be deceived. The names "scarlet rash" and "canker rash" are unscientific and should be dropped as they were long ago by most physicians.

Diphtheria and the Schools.

The Local Government Board of England have lately reported on quite an extensive epidemic of diphtheria which occurred in 1887 and there was sufficient evidence to show that that the schools had a considerable connection with the mechanism of "spread;" and that the prevalence of the disease was kept up by personal communication as the chief factor, is shown by the fact that not a single case of diphtheria occurred among the inmates (abont 90 in number) of the North London Truant School. These inmates are strictly secluded from contact with the outside public.

In one case which occurred in the family of a medical man there seemed reason to think that the patient might possibly have caught the infection from a cat. The cat was seen to be very ill with some throat affection,—so ill that it had to be destroyed. No one suspected the illness to be diphtheria, but in a day or two a child who had fondled the sick cat was taken ill with diphtheria, which proved fatal.—*Public Health.*

Words of a Practical Health Officer.

The first essential of any sanitary authority, now, is executive power, and its systematic use in the regular and scrupulous performance of every-day duty, as defined in the law and suggested by every-day experience. This almost self-evident proposition is constantly neglected in legislation for organization, and is very frequently violated by boards of health, who seem to favor the popular idea that an exceptional occasion is necessary to the highest exercise of their power, and infectious diseases of the classical type are their selection, with a proper admixture of panic. Panic is no advantage any longer, if it ever was, as a help to sanitary organization and work. Infectious diseases are not the leading causes of our sickness and mortality. It is only in the exceptional severity of plagues like yellow fever, as it has prevailed in Florida, for example, that infectious disease counts the most victims in the sickness or death-roll. That epidemics prevail at all, in our time and country, is somebody's fault; for if there is one thing more than another that modern hygiene ought to be able to do, it is to forefend their attack, or control them if they effect a lodgment; and boards of health and health officers have to learn that the most public and pronounced activity, after the invasion of infectious disease, is no substitute for the quiet, unobstrusive work which, in daily faithfulness, would have detected the first case, and controlled its spread. This waiting for "something to turn up", for a suitable opportunity for doing something worth while, is the prolific excuse and occasion for a multitude of little neglects which make the life of such a board no more than suspended animation waiting the electric shock of an emergency to seem to live. Its work is spasmodic, unsteady, and superficial; nothing is *forehanded*, a word which, better than any other I know, expresses the duty and activity of a model board of health, and is as applicable to that of a hamlet as of a city. As a rule, it is true that it is the fault of the sanitary authority if panics accompany epidemics. It is to prevent both that such authority exists; and the absence of one, or both, is the best test of the worth of a board to the locality or State which it serves. Nothing so conduces to this efficiency and popular confidence as the state of readiness for anything, which the systematic performance of daily, and often seemingly trivial, duty helps to assure.—*Dr. Hewitt's Presidential Address, Amer. Public Health Assoc.*

THE

SANITARY INSPECTOR.

VOL. 2, NO. 11. MAY, 1889. 25 CENTS A YEAR.

Sanitary Notes.

To Secretaries of local boards of health. Report promptly to this office all cases of infectious diseases.

Before this reaches our readers every local board of health in the State should be re-organized and should have reported to this office as the law provides. If any board has not done so, please organize at once and report.

Upon the receipt of the organization of a local board of health, a package of circulars and blanks is sent out to the secretary or health officer. If these papers are not promptly received, please notify this office.

As we go to press we are pained to learn that the chairman of the Local Board of Health of Mercer has contracted glanders from a horse which he visited. We hope this may be an error and shall investigate.

Mr. E. W. Bowditch, who planned and executed the present effective sewerage system at Bar Harbor has lately made a report to the Board of Public Works of Jacksonville, Fla., in regard to the sewerage of that city. He found that the yellow fever of last year prevailed chiefly in the unsewered portions, and where the drinking water was derived from cisterns and shallow wells.

In spite of the rapid growth of London the death-rate still continues to come down, reaching for the year 1888 the low water mark of 18.5 per 1000.

The City of Lynn, Mass. in its report for 1888, says that typhoid fever was not so prevalent that year as it usually has been, and thinks the reason for it is the almost universal use of water from the city supply, or what are termed tubular wells.

Nearly four years ago Dr. E. O. Shakespeare of Philadelphia was appointed United States Cholera Commissioner, and went abroad to make investigations in Southern Europe, while cholera was raging there. The Tennessee State Board of Health Bulletin very pertinently asks, and has been trying to find out why his report has not yet been made. We were also looking anxiously for it a long time, but we are not very particular now whether it is ever made or not, for, though we may have some taste in that direction, time does not permit us to dwell much among the antique in literature.

The college of physicians of London are prepared to urge upon the government the need of a renewed investigation into leprosy and the question of whether it is contagious or not. The majority of evidence at the present time is in favor of its contagiousness, and rather against heredity as the usual method of propagation.

In Berlin the physicians are now required to report every case of cerebro-spinal meningitis, as an infectious disease, and patients are to be isolated, children from families in which the disease is present are to be excluded from school, and the processes of disinfection are to be carried out, as for other infectious diseases.

Hesse gives in *Zeitschrift fur Hygiene* the results of extended researches as to the capability of our various food preparations for preserving the life of typhoid fever and cholera bacilli. He found but few food substances which were wholly unsuitable as a culture field for these infections. The cholera bacillus showed itself to be more susceptible to unfavorable conditions and this agrees with medical observation generally as to these two diseases.

Wooden Nutmegs Outdone.

Two companies exist in one of the German cities whose special business it is to manufacture machinery and all the appurtenances for making artificial unground coffee,—pure Java in the berry. A roasted meal of some kind, made cohesive with dextrine, and pressed in moulds and afterward polished is how it is done. The artificial coffee is said to be a very good imitation and when mixed with the real article is not easily picked out as false.

The Main Drain Trap.

In response to the recent request of the Editor of the *Sanitary News*, for opinions on the advisability of traping the main house-drain, four letters were received from correspondents, three of whom were State vice-Presidents of the National Association of Master Plumbers. All believe it safer practice to retain the trap. The geographical distribution of the correspondents was Boston, San Francisco, Kansas City, and Cleveland.

The Contagiousness of Tuberculosis.

The New York Board of Health has passed the following resolution: Resolved, that Drs. T. M. Prudden, H. M. Briggs, and H. P. Loomis, the pathologists of this department, be and are hereby requested to formulate a brief and comprehensive statement regarding the contagiousness of tuberculosis in man, stating therein the evidence of the same, and recommending, in the briefest possible manner practicable, the simplest means of protection from its influence.

Damages for Bad Plumbing.

The daily papers have mentioned an outbreak of typhoid fever in a private boarding school for girls which was kept by the Misses Ely on Columbia Heights, New York. The plumbing was found to have been outrageously bad and the young ladies entered action against the plumber. The jury brought in a verdict for the plaintiffs of $620.

A Rub.

The following comes from the *Sanitary News* of Chicago. The "rub" is deserved, but whether the praise which sweetens the reproof is merited or not we leave for readers in our own State to say, or to think:

"It is a little surprising to learn that the State of Maine has no provision for collecting or recording vital statistics. This is more surprising, when considered in connection with the very efficient health department of that State. The services of this department are among the best of the states, and it is able to give a number of the states valuable lessons in the management of health departments. Yet the health department must labor under many disadvantages in not having a record of vital statistics from which its

efforts should be more intelligently and immediately directed. These statistics have proven of much value wherever collected, and, surely, another Legislature in that State will not adjourn without providing the means for the collection and recording of such statistics."

Reform Needed.

One physician in the State writes in connection with his report of cases of diphtheria for 1888, that some of the children with that disease told him that they had not been able to enter the school-house privy without vomiting, it was in such a filty condition. Whether this had anything to do with causing the disease or not, that community ought to be ashamed of itself, and the worst of it is, they are not alone. Cannot we educate our children without lowering their health and debasing their morals by subjecting them to such offensive daily experiences. We fear that many cleanly barbarians would turn from some of the phases of our civilization with loathing and shuddering. Is it much better to be a dirty Christian than a cleanly heathen?

The school officers of every town should see that school vaults are in good condition and cleaned out often, and the local board should assure itself that this is done, and the mothers of the children should look after both sets of officials.

A Word for the Baby.

Now that hot weather is coming again, do not forget to give the baby a drink of water now and then, no matter if it has nothing but milk for food. On board of the railway cars we have more than once seen illustrations, that a drink of water was better for the baby than a dose of paregoric or soothing syrup, in observing how suddenly the troublesome crying of a fretful baby ceased after the newsboy had made the rounds with his dirty tumbler and the baby had not been forgotten. So offer the baby a drink of water frequently, but be assured when it is practicable, that the water is good and by letting him be the owner of a drinking cup, spare his susceptible lips from contact with the glass which has been to a hundred mouths, some clean and some very otherwise, some healthy and some sick with or convalescing from diphtheria, scarlet fever, consumption, or other communicable disease.

Actinomycosis.

This disease which as it effects cattle in its most usual form, goes by the names of "swelled head," "lump on the jaw," wen, cancer, etc., is receiving considerable attention now on account of its communicability to man, and for the reason that its manifestations are not so localized anatomically as was at first supposed. At a recent meeting of one of the London Medical Societies, the histories of several cases in man were communicated in which the lungs and liver were the organs principally affected, and some of the members expressed the opinion that the disease in both its bovine and human form is more common than is generally supposed.

One of the the leading Russian medical journals, Vratch,* gives a case of Actinomycosis of the brain and another of the lungs, the latter being recognized during life by a microscopical examination of the sputum. Another journal relates a case affecting the hand, presumably caused by infection with a splinter of wood. On the other hand Dr. Bodamer† who first demonstrated the disease and its fungus in this country, is inclined to believe that the latter is "only concomitant and is diagnostic of, but probably not the cause of the disease."

*Quoted by Centralblatt f. Bak. u. Par.
†Journal of Comparative Med. & Surg.

The Fly as a Disease Carrier.

With the bacteriologists another domestic animal, the fly, is coming in for his share of incrimination for spreading infectious diseases. It has long been know that, if not the house fly, at least some kinds which are near relations of his, have sometimes been guilty of causing malignant pustule by carrying the contagion of anthrax from diseased animals or animal substances to man. During the past year Dr. Alessi has been experimenting with flies to determine their liability to spread the infection of tubercolosis. The bacillus of this disease was found in the intestines and the excrement of flies which had feasted on tuberculous sputa, and their dried fæces, in which, with the aid of the microscope, the bacillus was known to exist, was used for inoculating rabbits, and the animals became tuberculous, thus it is found that the digestive tract of the fly is harmless to the germ. Spillmann & Haushalter have also made similar researches with the same results; and lately, according to the *Annals D'Hygiene Publique*, a Mr. Howe who has studied the subject in the Nile country has found that the granular ophthalmia of that region can be spread by means of house flies passing from the eyes of those who are affected with the disease to other persons.

Florida and Yellow Fever.

The fatal case of yellow fever reported nine days ago as occurring in Sanford, Florida, and referred to in our last issue, has been accepted as an actual case of yellow fever by the president of the Florida Board of Health and by the Marine Hospital service. This frank acknowledgment of the disease is itself, in a certain measure, reassuring. If continued it will, we believe, result in less danger, less exaggeration, and less tendency to foolish panic than if the opposite course were persisted in.—*Boston Med. & Surg. Jr.*

The above has a moral point just as applicable to Maine as to Florida. It is all morally wrong to pursue the "hush-up policy" in regard to infectious diseases, and such a course is scouted now by the intelligent thought of all countries. The citizen has a right to know it if his neighbor's house is infected, that he may avoid the contagion; the adjoining town has a right to know of outbreaks of infectious disease that it may take preventive measures, if necessary; and the State has a right to be informed of anything in an adjoining State which might endanger it.

In our own State there are many of the local boards which are doing their duty admirably in this direction, and some which are not.

Practices What He Preaches.

In *Public Health in Minnesota*. the Secretary of the State Board of that State, published a communication from the health officer of one of his towns, which shows how slight an exposure to scarlet fever may suffice for the communication of that disease, and shows also what judicious preventive treatment may do in limiting the disease to the primary case.

"On Thursday night, Feb. 21st, a messenger come with a sick call about ten miles away, stopping on the way in a house where there were five cases of scarlet fever. He remained in my house half an hour or more, sitting on the lounge (it being a very cold night.) My little boy was in the habit of sleeping on the lounge more or less every day, and as usual, on Friday 22nd, in the afternoon, he took his nap on the lounge. On Sunday afternoon he came down with scarlet fever. . . . . The eruption was intense, and remained so until death, which occurred on the fifth day, dying from heart failure. Throat never was bad. He was saturated with the poison in the extreme. I have four other children; they were kept away, and were not allowed to enter the room or come near. My wife and I were alone with the case until

the night before he died; then a lady who had no children, came to our relief. One other lady and two gentlemen, none of them having children assisted us on the day (afternoon) of the death, and at the funeral early the next morning, which was strictly private, none participating except those mentioned, the undertaker and the sexton of the cemetery. After the funeral the rooms (two) in which the case had been, were very thoroughly fumigated. Carpets and all clothing were scalded in zinc sulphate solution. The floors and walls were washed with a strong solution of carbolic acid; also with a one in 500 solution bichloride mercury, after which the doors and windows were thrown open and the rooms aired and thoroughly ventilated for five days. All who had come in contact with my little boy, were kept out of school for two weeks, and no Sunday school was held in the church the next Sunday. My children, (four living) did not contract the disease, and were not allowed to mingle, or in any way be, with other children for one month. We have many friends here and the little boy was a favorite with everybody, and our neighbors, and friends would come to the house and beg and plead to be let in, but I said, "No, we must stop this trouble right here," and then asked them to go away and not return, unless I sent for them. It was very trying, yet I had a duty to perform, although it was done in great sadness. I wanted to give my friends and neighbors a good example and show them that I meant to practice what I had been preaching for the last eight years."

A Substitute for a General Nuisance.

Of all forms of waste organic matter, human excreta is the most dangerous, and any system of conservancy which stores it up for any length of time after the prevailing fashion, should be abolished as rapidly as possible, and householders and local boards of health should work to this end as being for the individual and the public good.

The most convenient method of disposing of these wastes is by water carriage with fixtures and house drainage put in by a plumber of known competence and honesty. When this is not available the accumulative vault is not the single alternative.

We would in this connection call attention to the advertisement on another page of Prof. Angells "Sanitary Closet." It was brought to our notice three years ago by the Secretary of the State Board of Health of New Hampshire. Our impression at that time

was that it would fill a very useful place in many homes and cottages in our own State, and keeping it under observation, we have taken pains to learn what we can of its practicul workings. It has not yet been "pushed," in the parlance of the trade, but has come into use in quite a large number of homes in some of the New Hampshire towns where the climatic conditions are about like those of Maine, and, as far as we can learn, principally from those who have it in use, it has given satisfaction. The closet can be placed in any out building, with but little cost. Its use obviates one great evil of the common vault,—the pollution of the ground and the ground-air in the immediate vicinity of the dwelling. Its use also enables us to know that disinfectants, if we choose to use them, will exert their action on the excreta instead of being decomposed by contact with the soil.

With care in excluding unnecessary slops, the casks (kerosene or other oil casks) will need removing at only infrequent intervals. When filled, they are unclamped from the fixtures, the cover is clamped over the opening in the the barrel, thus hermetically sealing it, another cask is put in place, and the filled one is hauled away, or rolled aside and left for a more convenient opportunity.

We are told that the salts and other matter in solution in the casks prevent freezing sufficiently hard, even in the most exposed places, to burst them.

Last fall one of these fixtures was brought to Portland by request, and was seen by several of the members of the State Board and by the local board of that city and the impression of all was that it would be a good thing to replace the common privy vaults. It has received the commendation of the State Board of Health of New Hampshire. For many of our summer resorts and summer cottages, we think the "Sanitary Closet" would be well adapted, and we should like to see it put into use in some of these places.

A Suggestion to Maine Villages.

The following from the Second Annual Report of the State Board of Health of Massachusetts describes the systematized way in which the earth closet was used in two English villages, Halton and Beverly, and is suggestive of what might be done in some of our Maine villages.

"Till Mr. James, an intelligent gentleman residing in the neighborhood, introduced the earth-closet system, every family either

had its own privy close to its own premises, or used one in common with others, thus contaminating, as I learned on inquiry from the tenants, the houses in which they lived. About five years since Mr. James, being annoyed by effluvia from the privy adjacent to his own house, and which he vainly endeavored to remedy, tried Mr. Moule's system and with entire relief. Accordingly, with an excellent public spirit, and the sagacity of a practical farmer, he determined to persuade his humbler neighbors to adopt the same. The plan he pursued was as follows: Under a few small sheds he arranged an iron plate three inches thick, about four feet square, and raised upon bricks about a foot from the ground, to allow a fire to be lighted under it. The brick walls rise two feet above it. Thus a large pan or furnace is made for drying the earth. A load of earth can be dried sufficiently by one night's subjection to this heat. Half a load answers for a family of six for three months. He has used upon his land from eighty to ninety of such loads, after having passed through the closets twice. The result has been excellent. All the crops have been superior to those produced on neighboring estates treated on the old plan. The manure acts better than London manure or guano; especially does the amount of grass very greatly increase in quantity and apparently in quality.

"Meanwhile the villagers found a great relief from the use of it. It is used now by five-sixths of the families, and in two schools of 200 children and with equal success in all. All odor is absolutely removed—what was a nuisance and discomfort to say the least, headaches, &c., not to allude to higher dangers which some sanitarians claim to come from, and which do at times undoubtedly come from the taint of privies and bad-smelling drains; all these have disappeared. I conversed with the villagers, and all who have employed it like the method. A man is kept constantly employed by Mr. James to dry the original earth, to carry enough for a week in turn to the various houses, and to remove that which has been mixed with human excreta, liquid and solid. This by the subtle alchemy of nature, is found to be simply a dry, disintegrated pulverulent gray mass of inodorous matter. Even paper wholly disappears in it. The accumulations from the various families are placed under sheds opened in front, so that free access is given to the external air. After three months it is dried and used anew. I visited these various places, the privies, sheds, furnaces, etc., and found

no perceptibly unpleasant odor, even in that portion most recently taken from the village. It was evident that arrangements could be made for boxes (earth-closet privies) of any size requiring removal, either by the week or year. All would be alike inodorous and cleanly. Surely here was a success in every respect. The village health and the purity of the home were improved, with great pecuniary gain to the far-seeing farmer, and the waste which was previously allowed of valuable manure was no longer possible after such positively good results."

Precautions Against Consumption.

In connection with what was said on page 124, I would say that it is probably not a visionary idea that consumption can be carried from mouth to mouth by infected cups, spoons, etc., or by kissing. The tuberculosis of cattle sometimes spreads with surprising rapidity to every head of the herd, and this fact our Orono outbreak illustrates, and it is due probably to that familiar nose to nose communion which is characteristic of these dumb creatures, and the communication thus directly, or indirectly through infected provender or watering troughs. Human tuberculosis is also an infectious disease, and we know enough now about the life history of the infection to begin to lay down with some assurance, rules for its restriction.

In the first place, we may assure the unfortunate victim of consumption that the air which he expires is not infectious even during his attacks of coughing. This was shown by the experiments of Tappeiner, and has been confirmed repeatedly by more recent experimenters. As a sample of these experiments we may say that Grancher placed guinea pigs in a rubber sack and had a patient with advanced consumption breathe and cough into the sack six weeks. The guinea pigs remained subsequently well, though these little animals are very susceptible to tuberculosis.

We may assure the patient also that a few simple rules, invariably carried out, will protect his family and others from danger, but that, wanting these precautions, he is not only in imminent danger of re-infecting himself, thus precluding or limiting the chances of his own recovery, but he endangers very much the friends which surround him.

As in typhoid fever the infection exists solely in the discharges from the bowels, so we may regard the expectoration as the only

serious sorce or danger in consumption. Our rules therefore against infection have simply to care for the proper disposal of the sputum.

The infection cannot leave the moist sputum. Dried and pulverized sputum which may be raised in the air as a dust is the principal source of infection. Therefore, never receive the sputum in a handkerchief, nor let it soil any other cloths where it may become dried. Always use a spit-cup, which, in warm weather, to protect it from the flies, should be covered.

Such are the simple rules which, in the opinion of many of the best authorities, would limit in a marked degree that greatest of human scourges. As bearing on this subject, translations in abstract of two important papers by Dr. George Cornet of Berlin, will be given in the Annual Report of this Board which is now in the hands of the State printer.

Glanders.

The following letter was written by Dr Sternberg and has been published for the information and guidance of the U. S. Army:

BALTIMORE, July 24, 1888.

To the Quartermaster-General U. S. Army, Washington, D. C.

General: In reply to your communication of July 19th, I have the honor to submit the following statements and opinions:

Glanders is an infectious disease in which the infectious agent has been demonstrated to be a living micro-organism, a bacillus.

The bacillus of glanders was discovered by the German bacteriologists, Lœffler and Shutz, in 1882, and the discovery has since been confirmed by several other competent bacteriologists. It is found in the nasal secretions and ulcers of the mucus membrane, in the "farcy-buds" pustules and enlarged lymphatic glands of infected animals, and it is probable that it is also sometimes present in the urine.

It is a slender rod, somewhat similar in appearance to the well-known tubercle bacillus, but more uniform in size and somewhat broader. In preparations stained with fuchsin or with Lœffler's solution of methyline blue, clear spaces are often seen in the rods, which have been thought by some authors to be spores, but this is doubtful, as Lœffler has found that no development occurs after the bacilli have been exposed to a temperature of 55° C. (131° F.) for ten minutes.

Pure culture of this bacillus have been shown to produce typical glanders in horses and asses, and it is recognized by bacteriologists as the cause of the disease. The disease may also be transmitted by inoculation to Guinea-pigs and field-mice, which animals (preferably Guinea-pigs) may be used as a test of the infectious character of the nasal secretions of a suspected animal.

Exact experiments have shown that the bacillus of glanders is killed by exposure for five minutes to a 5 per cent. solution of carbolic acid, or by a 1 to 5000 solution of corrosive sublimate.

In practice it will be best to rely upon boiling water for the disinfection of all articles which can be immersed in it without injury —rope halters, blankets, currycombs, bits, etc. To keep on the safe side, half an hour may be fixed as the standard time which articles to be disinfected shall be immersed in boiling water, or exposed to steam at a temperature of 212° F.

Articles of leather should be repeatedly washed with a 5 per cent. solution of carbolic acid or a 1 to 1000 solution of corrosive sublimate; or immersed in such a solution for at least one hour. If the solution can be used hot, say 180° F. without injury to the material, this will be desirable.

All exposed parts of an infected stable should be thoroughly and repeatedly (three or four times) washed with a hot solution of one of the above named disinfectants. The carbolic acid solution (5 per cent.) will be preferable on account of the poisonous nature of the solution of the bichloride of mercury; but the latter is less expensive, and under proper supervision there should be no special danger in using it. After its use, feeding-troughs, etc., should be thoroughly scrubed with hot water to remove all traces of the poisonous salt. The application of a lime-wash to all surfaces, after ocmplete disinfection, will be desirable.

Stables occupied by infected or suspected horses should be disinfected daily by washing exposed surfaces with a 5 per cent. solution of carbolic acid, and nose-bags, halters, buckets used for drinking water, etc., should be carefully washed with the same solution or with boiling water. In view of the reliability of known measures of disinfection, when properly executed, I do not consider it necessary or justifiable to destroy Government property of value which has become infected by contact with animals suffering from glanders.

I do not doubt the propriety of killing animals suffering from glanders or farcy as soon as the nature of the disease is recognized.

Very respectfully, your obedient servant,

GEO. M. STERNBERG,
Major and Surgeon, U. S. Anmy.

Construction and Management

—OF—

EARTH CLOSETS.

Issued by the STATE BOARD OF HEALTH.

In dealing with matters which affect the public health, it is generally admitted that one of the most important is that which regards the disposal of human excreta. Where a sufficient water service and skillful plumbing can be secured, there is no doubt that the use of our modern improved water-closets is as near to the unobjectionable as need be; but in the great majority of houses in this State, geographical position or the want of means makes it necessary to substitute something else. What we actually find in general use is that most abominable privy system—objectionable on the score of health for tainting the air with poisonous vapors, and polluting soil and water, and objectionable, *decidedly*, on the score of decency and comfort.

In most country and village places, the best substitute for the common privy is undoubtedly the dry-earth closet. Some or the advantages of this are that the earth when properly used is a good antiseptic and deodorizer, therefore preventing the dangerous and unpleasant gases of putrefaction; that it is inexpensive; that it requires but little trouble to manage it; that on account of its inoffensiveness when well managed, it may be placed in more convenient proximity to dwelling-houses.

There are some patented devices for using the dry earth, but without patronizing these, any carpenter or other person with only ordinary mechanical ingenuity can get up something which will give good results. All that is needed is a common closet, a supply of dry earth, a water-tight receptacle beneath, and a convenient way of disposing of its contents at quite frequent intervals.

The receptacle should be wholly above the surface of the ground, and may consist of a metallic-lined box, a half of a kerosene barrel with handles upon it for removal, or, which is better, a large galvanized iron pail.

The receptacle may be removed through a door in the back of the closet or in front of the seat, or, by having the seat hinged and made to button backward, it may be removed that way. The earth should be common garden or field loam, if considerably clayey all the better, but it must be finely pulverized. Road dust does well, but sand is not suitable. Coal ashes are also good. Whichever of these is used should be dry and screened through a sieve with about quarter inch meshes. The dry earth may be kept in a box or bin so arranged, where can it be, that it may be filled from the outside of the closet, or it is quite convenient to have one-half the seat hinged and beneath it the small compartment to hold the present supply of the earth. In this box or bin holding the earth there may be a small tin scoop which may be employed in sprinkling in the earth, a pint or more, each time the closet is used. The main thing is to use enough of the earth to completely absorb all liquids, and this requirement, of course, precludes the throwing of slops into the closet. One or two loads of the earth will be needed annually for a small family.

naked body, even in the summer. Give all your attention and effort to restore breathing by forcing air into and out of the lungs. If the breathing has just ceased, a smart slap on the face, or a vigorous twist of the hair will sometimes start it again, and may be tried incidentally, as may, also, pressing the finger upon the root of the tongue.

Before natural breathing is fully restored, do not let the patient lie on his back unless some person holds the tongue forward. The tongue by falling back may close the windpipe and cause fatal choking.

If several persons are present, one may hold the head steady, keeping the neck nearly straight; others may remove wet clothing, replacing at once clothing which is dry and warm; they may also chafe the limbs, and thus promote circulation.

Prevent friends from crowding around the patient and excluding fresh air; also from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

DO NOT GIVE UP TOO SOON: You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it.

In suffocation by smoke or any poisonous gas, as also by hanging,—proceed the same as for drowning, omitting effort to expel water, etc., from the windpipe.

In suspended breathing from effects of chloroform, hydrate of chloral, etc., proceed by Rule 2, taking especial pains to **keep the head very low,** and preventing closure of the windpipe by the tongue falling back.

The foregoing method, originally published by the State Board of Health of Michigan, has the sanction of other State and City Boards of Health, and is fully endorsed by the State board of Health of Maine, and printed for general distribution as a life-saving measure.

Address STATE BOARD OF HEALTH, Augusta.

PLEASE PRESERVE THIS.

Study it thoughtfully, in order to act efficiently, if occasion requires.

TREATMENT OF THE DROWNED.

Two Things to be Done:

Restore Breathing; Restore Animal Heat.

RULE 1. **Remove all Obstructions to Breathing.** INSTANTLY loosen or cut apart all neck and waist bands; turn the patient on his face, with the head down hill; stand astride the hips with your face towards his head, and, locking your fingers together under his belly, raise the body as high as you can without lifting the forehead off the ground (Fig 1), and give the body a smart jerk to remove mucus from the throat and water from the windpipe; hold the body suspended long enough to slowly count ONE, TWO, THREE, FOUR, FIVE, repeating the jerk more gently two or three times.

Fig 1.

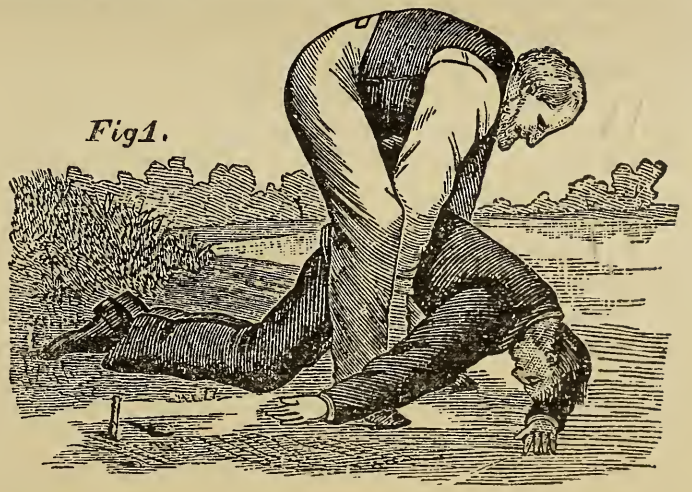


Fig. 2.

RULE 2. Place the patient face downward, and maintaining all the while your position astride the body, grasp the points of the shoulders by the clothing, or, if the body is naked, thrust your fingers into the armpits, clasping your thumbs over the points of the shoulders, and **raise the chest as high as you can** (Fig. 2) without lifting the head quite off the ground, and hold it long enough to *slowly* count ONE, TWO, THREE, Replace him on the ground, with his forehead on his flexed arm, the neck straightened out, and the mouth and nose free. Place your elbows against your knees and your hands upon the sides of his chest (Fig. 3) **over the lower ribs, and press downward and inward with increasing force** long enough to slowly count ONE, TWO. Then suddenly let go, grasp the shoulders as before and raise the chest (Fig. 2); then press upon the ribs, &c. (Fig. 3). These alternate movements should be repeated 10 to 15 times a minute for an hour at least, unless breathing is restored sooner. Use the same regularity as in natural breathing.

Fig. 3.

RULE 3. After breathing has commenced, RESTORE THE ANIMAL HEAT. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. *Warm the head nearly as fast as the body, lest convulsions come on.* Rubbing the body with warm cloths or the hand, and slapping the fleshy parts may assist to restore warmth, and the breathing also. If the patient can SURELY swallow, give hot coffee, tea, milk, or a little hot sling. Give spirits sparingly, lest they produce depression. Place the patient in a warm bed, and give him plenty of fresh air; keep him quiet.

BEWARE

AVOID DELAY. A MOMENT may turn the scale for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing,—ARTIFICIAL BREATHING IS EVERYTHING,—is the ONE REMEDY,—all others are secondary.

Do not stop to remove wet clothing before efforts are made to restore breathing. Precious time is wasted, and the patient may be fatally chilled by the exposure of the

THE

SANITARY INSPECTOR.

VOL. 2, NO. 12. JUNE, 1889. 25 CENTS A YEAR.

Sanitary Notes.

We invite you to send 25 cts. for the third volume of *The Sanitary Inspector*, beginning with the next, the July number. The pink subscription slip is a reminder and a help to do this.

At the time of writing this, fifty-two samples of water have been analyzed this year, at the office of the State Board of Health.

Many cases of drowning have been reported in the newspapers of the State the last few weeks. Examine carefully the little circular which comes as a supplement to this number, that you may be able to act promptly and rightly, if occasion should require you to attempt the resuscitation of a drowned person.

In the last number of the *Lancet*, we learn that between 1000 and 1500 deaths from cholera are occurring in Madras weekly.

It is always an indisputable fact that it is always better and far cheaper to prevent epidemies, disease, want and misery than to wait until they are upon us and then try to remove or to cure them. *Emanuel Ritter.*

At the Bacteriological Station in Odessa, Russia, 836 persons bitten by rabid dogs have been inoculated after the method of Pasteur. At first the death rate was seven per cent., but after the use of the stronger virus it has fallen to less than one per cent.—*Deutsche. Med. Woch., May 30.*

As having a bearing upon the infectiousness of pneumonia, Klein, of England, relates that quite a spontaneous outbreak occurred among the mice, guinea-pigs, and monkeys, in the room where his investigations as to the nature of the Middlesbrough pneumonia epidemic were made. He found that the bodies of the animals contained the same bacillus.—*Centralb. f. Bak. u. Par. No. 19.*

Work is without doubt, not only a means of accomplishing a given purpose, but it is still more a necessity of the soul; without it we can neither be healthy nor happy.—*G V. Oertsen.*

Uffelmann cites a case in which the coffin of a child who had died four years previously of diphtheria was opened in the presence of five remaining children of the family and all took the disease apparently from this exposure.

Observations lately made in the institutions for the blind in Prague show that over 27 per cent, of the blindness in children is due to the effects of small-pox. None of the blind from this cause had been vaccinated.

We hope to send out the Fourth Annual Report early in July. We shall send a package to the secretary or health officer of every town which has a local board of health. Our aim is to make the Annual Reports interesting and useful to the people generally, and if those of our readers who wish to receive copies, will signify their wish on a postal card, copies will be sent in care of the local secretary, or, if they are actual subscribers to the *Sanitary Inspector*, they may rest assured that they will not be forgotten.

Wolpert's Air Tester.

It will be worth the while of health officers, school officers, teachers, physicians and others who are interested in testing the purity or otherwise of the air of school or other rooms, to take notice of Codman & Shurtleff's advertisement of Wolpert's Air Tester, a little instrument which we have used with much satisfaction.

Our Next Report.

The Fourth Annual Report of the State Board is now in press, and will be distributed as soon as possible. Among the papers which it will contain are, Small-pox at Cumberland Mills, Diphtheria at the Insane Hospital; Typhoid Fever at Washburn; Circulars; Water Analysis; Public Water Supplies; Pnuemonia as an infectious or Epidemic Disease; Epidemic Jaundice; Cerebro-Spinal Meningitis; As to the Infectiousness of Diphtheria; On the Identity of Croup and Diphtheria; On the Filtering Capacity of the Soil; Public Health Work in Portland; Light Gymnastics for Schools; Pollution of Water Supplies; As to the Spontaneity of Infectious Diseases.

Nasal Troubles and Intellectual Power.

The medical journals are calling attention to the fact that nasal catarrh may in some cases profoundly effect the whole being, mental as well as physicial. In a communication made to the Prussian Minister of Public Instruction a year and a half ago, Dr. M. Bresgen of Frankfort made the following statement: "Many a child, which, on account of inattention and inability to learn, remains behind his class, developes very quickly an increased power of mastering his studies, as soon as he is freed from an existing nasal trouble."

Periods of Infectiousness.

Dr. Vacher, the medical officer of health of Berkenhead, Eng., and Dr. Dukes of Rugby who have given much attention to the contagious diseases fix the period of infectiousness for the different diseases as follows:

For small-pox, 56 days; measles, 27 days; scarlet fever, 49 days; diphtheria, 28 days; mumps, 21 days; typhoid fever, 28 days. The time with the eruptive diseases is reckoned from the beginning of the eruption.

Electrical Quackery.

The *Electrical Review* in speaking of those belts and pads which are peddled by charlatans says: To any person who has even the most elementary knowledge of the construction of a voltaic battery, the description here given of the constituent parts of one of these belts will serve to show that its capability as a generator and distributor of electricity is altogether inconsiderable. Neither better or worse than the amulet to which the "untutored Savage" pins his faith, this costly trash is palmed off upon a public which, for unsuspecting simplicity, is worthy to compare with the Mashunas whom Mr. Selous found so hospitable in his travels in Equatorial Africa.

The Death of Father Damien.

Father Damien was born in Belgium in 1841. In 1873, learning of the sufferings of the outcast lepers of the Sandwich Island Colony of Molokai, he cast his life with theirs and consecrated it to alleviating their sufferings. After ten years of devoted labor, breathing a polluted atmosphere, dressing sufferers' sores, washing

their bodies, comforting their dying moments, and even digging their graves, he found himself a victim of the disease. The sympathy of all who have known of his heroism has been moved during the last few years while tidings have come now and anon of the infection which Father Damien was well aware was likely to be his lot when he took his life in his hands and freely gave it for those who suffer.

The Hearing of School Children.

Dr. Barr has been making investigations in Glasgow as to the hearing power of school children. Among 600 children examined he found in every 50 a dozen or more whose power of hearing was reduced to such a grade as to put them at a disadvantage in their school studies. He says that dull, inattentive and inactive children should have their ears examined and their power of hearing tested; that in order to prevent local draughts, a prolific cause of ear trouble, the school room should be supplied with efficient methods of ventilation so that the windows may be kept closed during the hours of instruction; and that children with defective hearing should always sit near the teacher.

Is Membraneous Croup Diphtheria?

This seems a new question with some of the Eastern Sanitary Authorities. It is as old as our legislation for infectious disease notification (1883) in Minnesota, and our role has been to look upon it as diphtheria when the latter disease is prevailing, and always to be suspected. It does not follow that we believe the disease to be the same, but that it is so difficult to make a differential diagnosis that for safety, the sanitary management is the same.

We have abundant evidence of the necessity for this precaution in the efforts now making all over the State to still further restrict the distribution and mortality of diphtheria. There is hardly a Health Officer whose experience does not justify this, and it is the rule with us.—*Public Health in Minn., May, 1889.*

Take Time to Eat.

The opinion that hurry in eating is a prolific cause of dyspepsia is founded on common observation. The ill results of "bolting" the food have been attributed to the lack of thorough mastication, and to the incomplete action of the saliva upon the food. Two-

thirds of the food which we eat is starch, and starch cannot be utilized in the system as food until it has been converted into sugar, and this change is principally effected by the saliva. But there is a third reason why rapidity of eating interferes with digestion. The presence of the salivary secretion in the stomach acts as a stimulus to the secretion of the gastric juice. Irrespective of the mechanical function of the teeth, food which goes into the stomach incompletely mingled with saliva, passes slowly and imperfectly through the process of stomach digestion. Therefore, as a sanitary maxim of no mean value, teach the children to eat slowly—and in giving this instruction by example, the teacher, as well as his pupils, may receive a benefit.

Observations on Diphtheria.

Dr. Bard has lately published the results of his observations in an outbreak of diphtheria in Oullins, France.

The first case occurred in a restaurant kept by the parents of the sick child. Its importation was surmised, but could not be proved. Subsequently the disease was spread by direct contagiousness. From many of the fatal cases the contagion was not spread, and from many of the cases which ended in recovery, it was spread. This is thought to have been due to the short duration of the fatal cases, and the long persistence of the infection in those who recovered. This persistence of the infection in convalescents gave rise to many school outbreaks. The doctor concludes that the isolaton of convalescents is the most indispensible of all prophylactic measures, and that the immediate disinfection of the dejections of the sick, of all objects which they use, and of the final disinfection of the room, bedding, and clothing are necessary.—*Revue D'Hygiene, May 20.*

"An Important Experiment."

In the city of Leicester, England, they have been making for some time "an important experiment" as one of their anti-vaccinationists calls it. The *Lancet* tells them that there is no such thing there, and that the really important experiment will be to get rid of their vaccinated staff of nurses, inspectors, and medical officers, and to meet the imported cases of small-pox with unprotected persons. We challenge the Leicester authorities to this experiment, and to call upon the unvaccinated to show their contempt for vac-

cination by meeting the disease. Mr. Stephen probably knows that he could not get a staff to meet the risk on such terms. If he does, why does he repeat that Leicester owes its security to sanitation, isolation, and disinfection? If small-pox comes, Leicester people must stay at home or take the consequences, which unless the millennium sets suddenly in, will be a disgusting disease, permanent disfigurement, blindness, and often death. This is the only experiment that Leicester men are trying, not on themselves, but more especially on their poor children: a noble one, surely!"

Measles at a Boys' School.

One of the masters in the boys' school at Claremont returned after a few week's absence on Monday, April 30th. He felt poorly on Monday and thought he was suffering from a severe cold; but became worse, and when first seen on Thursday, May 3, had the measles rash on his face and chest. He was last in contact with the boys on the evening of Wednesday; the school closed Friday. He was in contact with twenty-nine boys, of whom fifteen had had measles; the remaining fourteen all took the disease. The time of contact was about thirty-six hours on May 1 and 2. The first boy was taken ill on May 9, the last boy on May 17. The time of incubation was, therefore, eight to sixteen days; the period, in the majority of the cases, being fourteen days. It proves that measles is an extremely contagious disease before the stage of eruption, as not one of the boys saw the master after the rash had appeared.—*Arch. of Pediatrics, from Brit. Med. Jr.*

On Sewerage for Our Towns.

The secretary of the local board of health of one of our towns writes for advice on the following statement:

"Our city as a rule has no system of sewerage except what nature and natural brooks have made. Nearly all sink and many privy drains open on one side of the street (in the gutter) either opposite to, or some little distance from the houses, making, especially where several unite under one sidewalk or by one road side, a very unsanitary condition. The question with us is, who is responsible for these several drains after they enter the street ditch? Is each individual householder obliged (as our aldermen claim) to carry his drain to the river (a distance in many cases

of from 20 to 80 rods,) or should the city authorities maintain a street sewer, into which we can order these offensive sink drains to be emptied?"

This description of the drainage conditions of one of the fairest (save this one unsavory fault) of our smaller Maine cities is not in the least complimentary, and we think that, in this connection, the citizens generally would not care to have the name of their town mentioned.

Here is a condition of multiple nuisance of the worst sort, the same kind of a nuisance which twelve years ago the writer found still lingering in a great part of one of the largest capitals of Europe, but which under great difficulties and with enormous expense was under process of subjugation. At that time this condition was acknowledged to be disgraceful, and not only was offensive, but contributed largely to make the death rate and sickness rate of Berlin one of the worst to be found in a civilized city.

As to the question in this particular Maine town: this condition is a nuisance likewise detrimental to health, offensive to the eye and nostril, and serves to make the town repellent instead of attractive to the visitor. When its long suffering citizens themselves are driven to complain, the local board is constrained by considerations of equity. It would be manifestly a hardship to drive each citizen to abate the nuisance originating on his premises only when he can do so by building a drain 20 to 80 rods in length. Then why not apply that principle of co-operation which is the substratum of our civilized life, and each build a sewer the length of his lot and connect with it? Or instead, and this would be far more equitable, it being a project for the public good, why does not the city put in a system of sewerage?

Simply for the reason probably, that when sewers are mentioned there loom up before the imagination of the city fathers pictures of those vast subterraneous brick structures, sections of which in earlier or even in later years they have had glimpses of, while on occasional visits to the larger cities. But the visions give rise to altogether erroneous conceptions of the needs of our Maine towns.

In late years a radical change has come over the practice in sewer building. Formally the "combined system" was all in vogue in which the sewers were made large enough to carry the rain-water together with the sewage. Now the practice is to let the rain-water wash the surface of the ground as before the epoch of

sewers, and build the sewer of tight salt-glazed earthen-ware sewer-pipe just large enough to carry the sewage alone. This practice cuts down wonderfully the cost of construction. An eight or ten inch pipe running nearly full will carry an amount of sewage which would surprise the uninitiated. A pipe of such size requires a comparatively narrow hole in the ground to receive it, and therefore less cost for excavation. Running nearly full at certain times in the day it scours itself and is always clean. Compare with this the large brick sewer which for long seasons in dry weather has only a shallow trickle of sewage along the bottom which is incapable of flushing the sewer; meanwhile the moist, porous structure is continually giving off from all openings into it odors like what our local board of health complains of in his unsewered town.

The small pipe, "separate system" is what is needed in our Maine cities and villages, and our advice is that it will be an economical, wise and far-seeing policy for them to employ a competent sanitary engineer to make a survey and plan for such a system, and then to carry it out as they can, piece-meal if they must, thus distributing the cost over a series of years, or all at once, and also distributing the cost over a series of years after the English style, as would be justifiable in building a permanent public improvement.

If necessary, build part at a time, in accordance with an original design; then money will not be squandered in coaxing sewerage to run up hill, as some of our towns have been trying to do.

As to the question of economy; on the one hand there will be a burden of taxation which will be only light if good judgment is exercised in the plan of construction; on the other hand, there will be the burden of extra sickness and mortality, the disgrace of shiftless unthriftiness, and the repulsion of many of the more desirable class who would otherwise come to make their permanent or summer residence with us.

Consumption as an Infectious Disease.

A few weeks ago the New York City Board of Health requested Drs. Prudden, Biggs, and Loomis, pathologists to the board of health, to make a concise statement upon the subject of the contagiousness of tuberculosis and the means of protection therefrom. The following is their report and coming from so high authority as it does, is worthy of a careful reading by everybody:

The disease known as tuberculosis, and, when affecting the lungs, as pulmonary tuberculosis (consumption), is very common in the human being, and in certain domestic animals, especially cattle. About one-fourth of all deaths occurring in the human being during adult life is caused by it, and nearly one-half of the entire population at some time in life acquires it. The disease is the same in nature in animals and in man, and has the same cause.

It has been proved beyond a doubt that a living germ called the "tubercle bacillus," is the cause, and the only cause, of tuberculosis. It does not seem necessary to state the facts upon which this assertion is based, for the observation first made by Robert Koch in 1882 has been confirmed so often and so completely that it now constitutes one of the most absolutely demonstrated facts in medicine.

Tuberculosis may often affect any organ of the body, but most frequently first involves the lungs. When the living germs find their way into the body, they multiply there, if favorable conditions for their growth exist, and produce small new growths or nodules (tubercles), which tend to soften. The discharges from these softened tubercles, containing the living germs, are thrown off from the body. In pulmonary tuberculosis the discharges constitute, in part, the expectoration. The germs thus thrown off do not grow outside the living or human body, except under artificial conditions, although they may retain their vitality and virulence for long periods of time, even when thoroughly dried. As tuberculosis can only result from the action of these germs it follows, from what has just been said, that, when the disease is acquired, it must result from receiving into the body the living germs that have come from some other human being or animal affected with the disease.

It has been abundantly established that the disease may be transmitted by meat or milk from a tubercular animal. The milk glands in milch cows are often affected with the disease when their lungs are involved, and the milk from such animals may contain the living germs, and, if not thoroughly cooked, it is capable of transmitting the disease. Boiling the milk or thoroughly cooking the meat, destroys the germs. Although the meat and milk from tubercular animals constitute actual and important sources of danger, the disease is acquired, as a rule, through its communication from man to man.

Tuberculosis is commonly produced in the lungs (which are the

organs most frequently affected) by breathing air in which living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption, contains these germs, often in enormous numbers. This material when expectorated, frequently lodges in places where it afterwards dries, as on the streets, floors, carpets, clothing, handkerchiefs, etc. After drying, in one way and another, it is very apt to become pulverized, and float in the air as dust.

It has been shown experimentally that dust collected from the most varied points in hospital wards, prisons, private houses, etc., where consumptive patients are present, is capable of producing tuberculosis in animals when used for their inoculation. Such dust may retain for weeks its power of producing the disease. On the other hand dust collected from rooms in institutions or houses that have not been occupied by tubercular patients does not produce the disease when used for the inoculation of animals.

These observations show, that, where there are case of pulmonary tuberculosis, under ordinary conditions the dust surrounding them often contains the "tubercle bacilli," and persons inhaling the air in which the dust is suspended may be taking in the living germs. It should, however, be distinctly understood that the breath of tubercular patients, and the moist sputum, received in proper cups, are not elements of danger, because the germs are not dislodged from the moist surfaces by currents of air. If all discharges were destroyed at the time of the exit from the body, the greatest danger of communication from man to man would be removed.

It then follows, from what has been said, that tuberculosis is a distinctly preventable disease. It is a well known fact that some persons, and especially the members of certain families, are particularly liable to tuberculosis ; and this liability can be transmitted from parents to children. So marked and so frequent is this liability, and so frequent is the development of the disease in particular families, that the affection has long been considered hereditary. We now know that tuberculosis can only be caused by the entrance of the germ into the body, and that this transmitted liability simply renders the indivudal a more easy prey to the living germs when once they have gained entrance.

The frequent occurrence of several cases of pulmonary tuberculosis in a family is, then, to be explained, not on the supposition

that the disease itself has been inherited, but that it has been produced after birth by transmission directly from some affected individual. Where the parents are affected with tuberculosis, the children, from the earliest moments of life, are exposed to the disease under the most favorable conditions for its transmission; for not only is the dust of the house likely to contain bacilli, but the relationship also between parents and children, especially between the mother and child, is of that close and intimate nature especially favorable for the transmission by direct contact.

If, then, tuberculosis is not inherited, the question of prevention resolves itself principally into the avoidance of tubercular meat and milk and the destruction of the discharges, especially the sputum of tubercular individuals. As to the first means of communication, those measures alone answer the requirements which embrace the governmental inspection of dairy cows and of animals slaughtered for food, and the rigid exclusion and destruction of all those found to be tubercular.

For the removal of the second means of communication, i. e. the sputum of tubercular individuals, the problem is simple when the patients are confined to their rooms or houses. Then wooden or pasteboard cups, with covers, should always be at hand for the reception of the sputum. These cups are supported in simple racks and thrown with their contents into the fire. A cheap and efficient cup for this purpose is now on the market, and is supplied by the druggists.

The disposition of the expectoration of persons who are not confined to their rooms or homes is a far more difficult problem. The expectoration certainly should not be discharged on the street, and the only practicable means for its collection seems to be in handkerchiefs, which, when soiled, should at the earliest moment be soaked in a solution of five per cent. carbolic acid, and then boiled and washed. Handkerchiefs thus soiled are exceedingly dangerous factors in distributing tubercle bacilli; for, when the sputum becomes dry, it is easily separated in flakes from the cloth, and then soon becomes pulverized and suspended as dust.

It becomes evident from what has been said that the means which will most certainly prevent the spread of the disease from one individual to another are those of scrupulous cleanliness regarding the sputum. These means lie largely within the power of the affected individual. It is furthermore to be remembered that con-

sumption is not always, as was formerly supposed, a fatal disease, but that it is in very many cases a distinctly curable affection.

An individual who is well on the road to recovery may, if he does not with the greatest care destroy his sputum, diminish greatly his chances of recovery by self-inoculation.

While the greatest danger of the spread of this disease from the sick to the well is in private houses and in hospitals, yet, if this danger is thoroughly appreciated, it is, for the most part, quite under control through the immediate destruction of the sputum and the enforcement of habits of cleanliness. But in places of public assembly, such as churches and theatres, particularly the latter, conditions are different, and the safety would seem to depend largely upon a dilution and partial removal of the floating and possible dangerous dust by means of adequate ventilation.

Rooms in private house and hospital wards that are occupied by phthisical patients should from time to time be thoroughly cleaned and disinfected, and this should always be done after they are vacated before they are again occupied by other individuals. Steamship companies should be obliged to furnish separate apartments for consumptive persons, so that no person in the exigencies of travel need be forced to share his room with one who might be a source of active danger to him.

London Past and Present.

Sanitarians have watched with considerable interest the coming of each annual mortality report of London, for we have the instructive example of the largest of the cities of the world showing a death-rate lower than that of almost any other city of considerable size, and a mortality rate which is constantly coming down.

And yet we are told by Dr. G. V. Poor in a lecture before the Sanitary Institute last January, that "there can be no doubt that down to the commencement of the present century London was a veritable fever bed, the causes of death being largely malarial fever, spotted or typhus fever, plague, small-pox, measles, scarlet fever, and whooping cough, the two latter being comparatively recent introductions."

"The difficulty of rearing children is referred to as evidence of the unsanitary state of old London." Of the children of James I., three out of five died under 3; of the children of Charles I., the ages of death were 29, 26, 20, 15, 4, 1; of eleven children of James II., by two wives, one (the old Pretender) attained the age of 78, and of another the age is doubtful, but eight died under 4, and two others died at 11 and 15; of the six children of Anne, one reached the age of 11, and the remaining five died under one year.

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